AMERICAN

SEPTEMBER • 1953

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

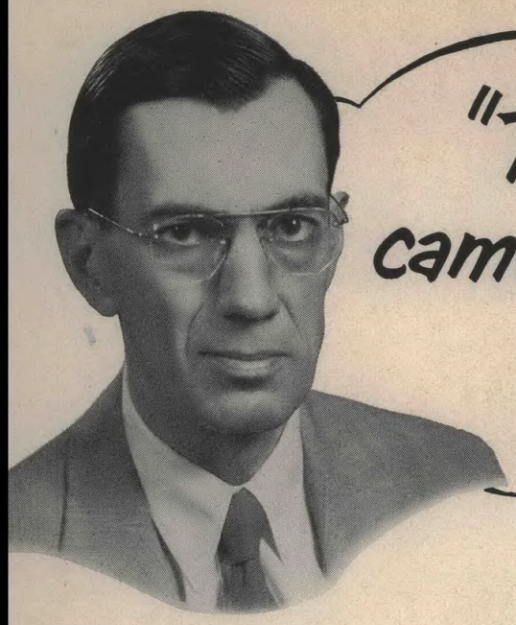
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In This Issue . . .

- WIDE-SCREEN FOR 16MM MOVIES
- SHOOTING A 16MM TRAVEL FILM IN 3-D
- CINEPANORAMIC—NEW FRENCH ANAMORPHIC LENS

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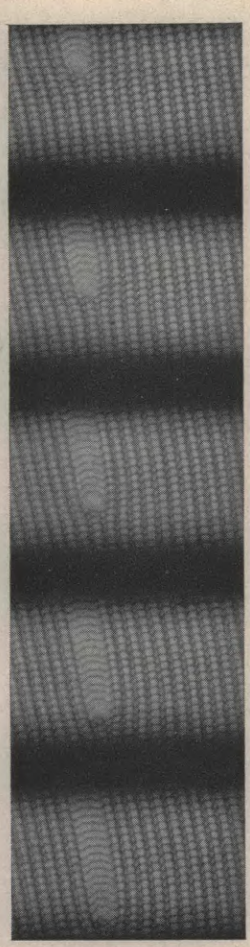


"Type 931 Film gives the cameraman the speed he needs—when he needs it."

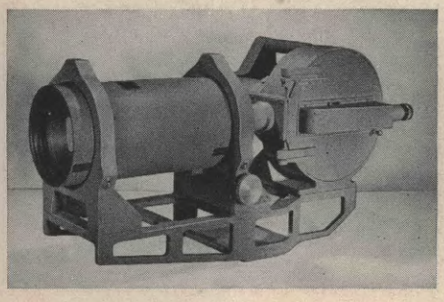
writes John H. Waddell, Fellow of the Royal Photographic Society and Society of Motion Picture and Television Engineers, Manager, Fastax Division, Wollensak Optical Company



Sequence of exploding firecracker taken at 8,000 FPS. in "Fastax" Camera.



Type 931 Film spotlights stocking "run." (Also exposed at 8,000 FPS.)



"Fastax" Camera, used in product or process motion analysis and other forms of high-speed photography, can record up to 16,000 frames per second. (Designed and manufactured by Wollensak Optical Company, Rochester, New York.)

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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY
PUBLICATION OF THE AMERICAN SOCIETY OF CINEMATOGRAPHERS

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•

ON THE COVER

DIRECTOR of photography Ray Fernstrom, A.S.C., (behind camera) checks focus for a closeup of a player in an industrial film recently produced in the St. Paul, Minnesota studios of Reid H. Ray Film Industries. The Ray Studio, one of the most complete outside Hollywood, utilizes the most modern camera and lighting equipment in producing 16mm and 35mm industrial, advertising and TV commercial films.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1953 by A. S. C. Agency, Inc.

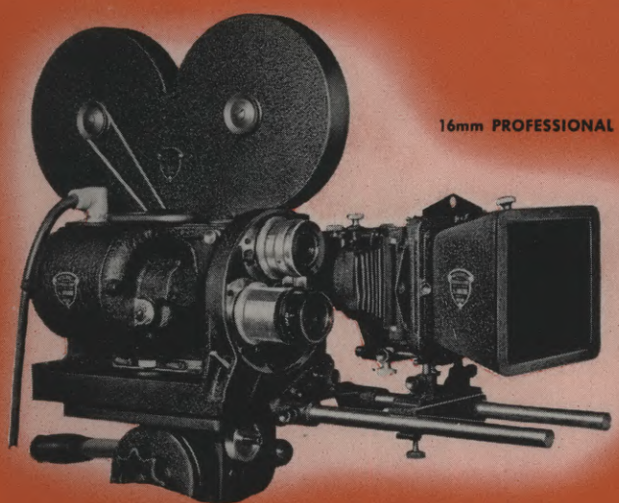
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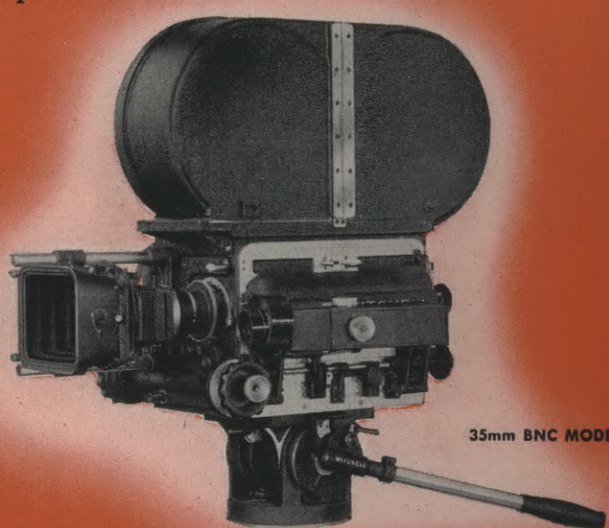
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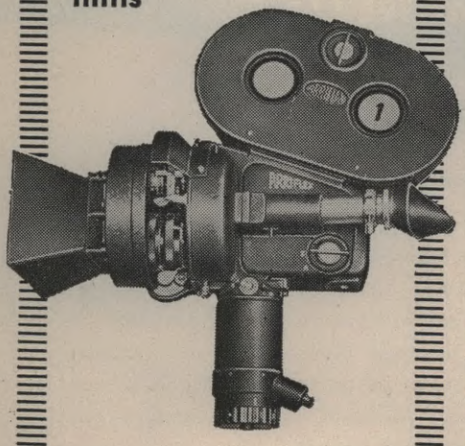
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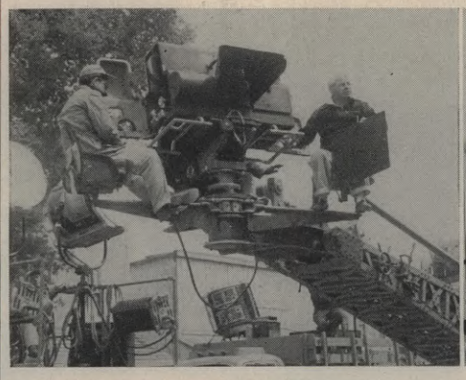


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Hollywood Bulletin Board



Up in the air for RKO is Nick Musuraca, ASC, (right) who directed the 3-D color photography of "Arizona Outpost," using the Natural-Vision stereo camera.



Set to photograph "The Bridges at Toki-Ri" November 1st, Tom Tutwiler, ASC, (front, center) last month spent five days at sea on pre-production survey cruise.

ROBERT L. SURTEES, A.S.C., who leaves for Africa soon to photograph a production there for Metro-Goldwyn-Mayer, spends his spare time editing the hundreds of feet of 16mm movies which he has filmed during his many recent foreign assignments (Italy, Africa, etc.). When completely edited the films will be soundstriped and Surtees will record narration for them with his Bell & Howell "202" recorder-projector.

•

HAROLD STINE, who directs the photography of the "Superman" series of TV films, was admitted to membership in the American Society of Cinematographers last month. At one time a special effects photographer at R.K.O.-Radio studios, Stine entered TV film production about two years ago and has photographed such popular video film shows as "Red Skelton," "Big Town," "Dick Tracy," and others.

•

EDWARD COLMAN, another TV film photographer, also was admitted to membership in the ASC the previous month. Colman directs the photography of the popular "Dragnet" TV film series for Mark VII Productions at the Walt Disney Studio. Prior to this assignment, Colman had directed the photography of a number of feature films for London Films, London, England, under such well-known film directors as Victor Saville, Alex Korda, and Zoltan Korda.

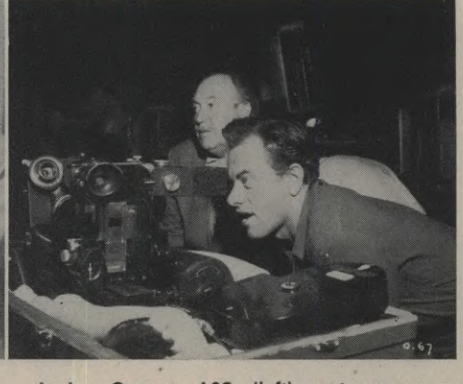
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GREER GARSON'S favorite cameraman,

(Continued on Page 456)



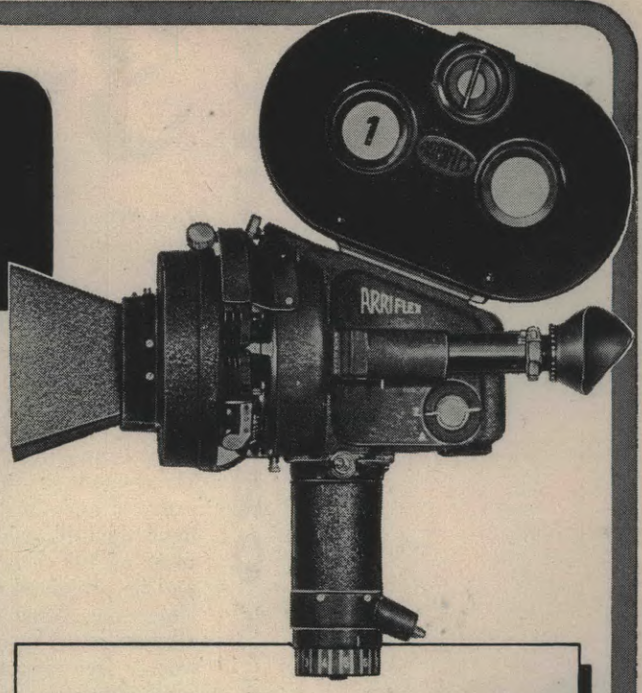
Carey Wilson (left) and Jesse L. Lasky last month presented Screen Producers Guild award to Univ. of So. California's Herbert Skobel for student-produced "Let Me See."



Is Lee Garmes, ASC, (left) next cameraman to graduate to ranks of film directors? Garmes, along with actor John Ireland, recently co-produced two 3-D successes.

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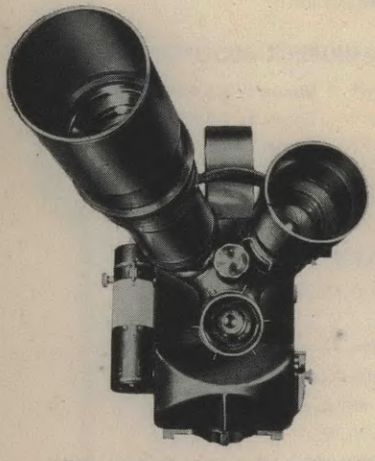
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3-D and WIDE SCREEN News Roundup

Just When A Lot of important people last month were predicting an early demise of 3-D—were strong in their beliefs that 3-D just wasn't here to stay—three important things happened in Hollywood to prove that 3-D movies can and probably will be with us for a long time yet.

First of all, representatives of the Nord Company of Minneapolis came to Hollywood to show major studio executives and theatre men a gadget they have devised, which enables the twin-films of 3-D to be put on one film strip and be projected with a single machine. This, the Nord men say, offers the advantage of insuring correct and distortion-free projection of 3-D films, plus eliminates the need for dual-projector operation for stereo film programs. With the Nord system, film programs can be run just like flat picture programs.

About the same time, an obscure projectionist at MGM studios perfected a new zoom-type projection lens which enables exhibitors to handle wide-screen pictures of all aspect ratios, without having to buy separate sets of lenses for each. Thus, a 3-D picture shot for a certain aspect ratio can be screened that way without the need for the theatre owner to purchase a special set of projection lenses. The one lens handles all aspect ratios, from 1.37-to-1 to 200-to-1.

The following week, representatives of the Polaroid Corporation, Cambridge, Massachusetts, unveiled for the Motion Picture Research Council, an electronic system which detects any out-of-sync condition in 3-D projection and enables the projectionist to correct it. The demonstration proved beyond doubt that there can be such a thing as distortionless, non-eye-irritating 3-D movies when they are screened with the Polaroid mechanism in control.

All three of the innovations briefly described above will be explained in greater detail in articles which are to appear in the October issue of *American Cinematographer*.

•

The Polaroid Corporation has contributed still further to the improvement of 3-D, and especially to the comfort of the 3-D spectator by replacing its original model Polaroid viewing spectacle with a new improved model. Latter has larger lenses and a wire-reinforced frame, which insures more comfort for the wearer. The reinforcement feature overcomes the big fault of the earlier model which would never "stay put."

•

Despite These Important developments, of the thirty feature films shooting in Hollywood the closing weeks of August, only five were being filmed in 3-D.

Producers, exhibitors, reviewers and the movie-going public are still pretty well divided on the matter of 3-D movies; but once the above-mentioned improvements are put generally into effect, much if not all objection to 3-D will probably disappear. It is likely that 3-D will be accepted as a permanent classification or type of motion picture to be utilized when the production is especially suited to the medium.

•

In The Realm of wide-screen movies, perhaps the only development of note last month was the unveiling in Hollywood by Carl Dudley of the new Vistarama system. Before a large gathering of the press and studio technical men, Dudley screened a two-reel short subject on Hawaii, which was photographed by Edwin E. Olsen. Vistarama is an anamorphic lensing system, similar if not exactly like that of 20th Century-Fox's CinemaScope. The Hawaiian scenes, filmed in Eastman Color, were sharp and clear edge to edge. Notable was the fact there was a minimum of "dishing" of the horizon line on distant shots, something which marked earlier panoramic screen movies.

By contrast, a second Vistarama reel comprising tests shots filmed indoors on a sound stage were lacking in depth. Here, focus in many shots failed to carry beyond a few feet, although the sets appeared to be lit in sufficient volume to permit filming with the lens reasonably stopped down. This difficulty, we are told will soon be corrected.

•

Returning From a Tour of several eastern cities where they canvassed man-in-the-street opinion on effect of current Hollywood production pattern, Paramount producers Wm. Pine and Wm. Thomas voiced objection to recent industry efforts to standardize movie production under any one particular system. "The day of the 3-D and flat picture is far from over," they said.

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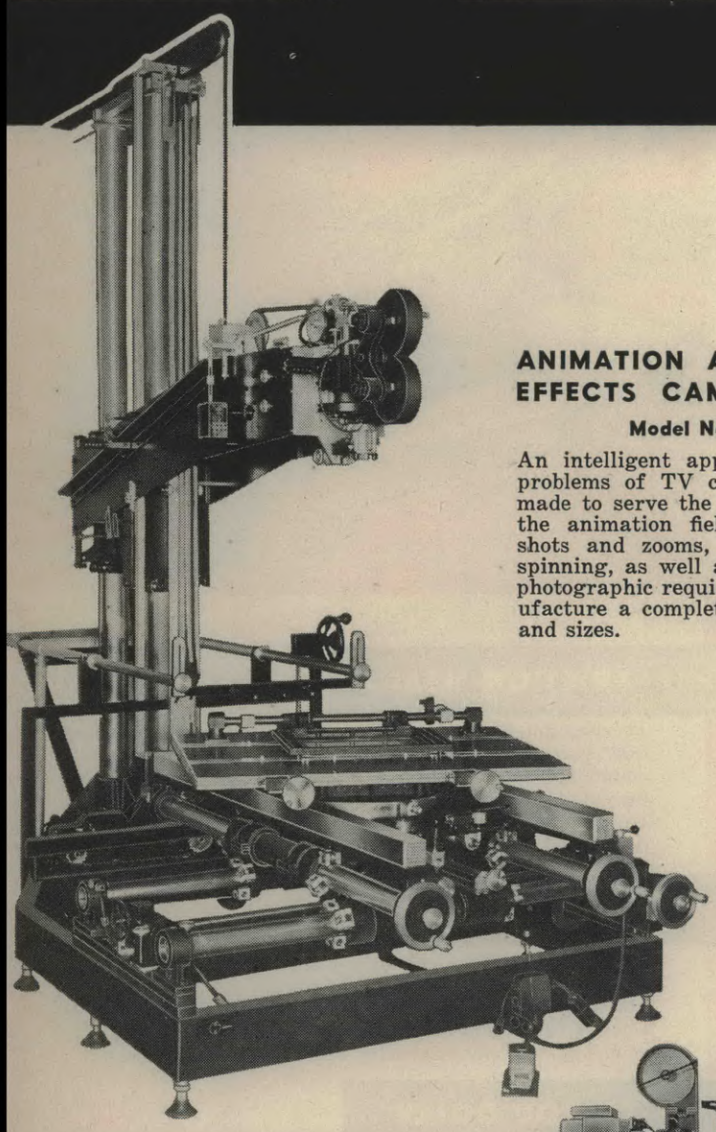
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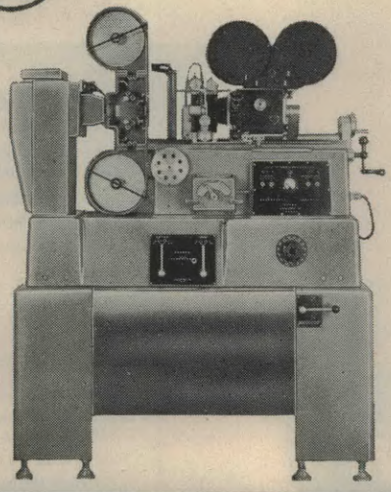
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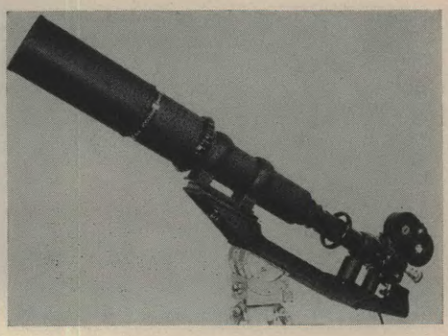
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What's New...

In Equipment, Accessories, Services



Giant Telephotos — Telephoto lenses for motion picture cameras, some ranging up to 40 inches in focal length, are now being distributed in the U. S. by Ercona Camera Corp., 527 Fifth Ave., New York 17. Lenses are available in mounts to fit most 16mm and 35mm cameras. Dual mounts also may be had so lenses may be used interchangeably on still or motion picture cameras. Prices range from $195 to $1,250.

•

Color Duplicating Film — McGregor Products Co., 16 State Street, Rochester, N. Y., makers of 16mm and 35mm color films, announces a new color duplicating film in both 16mm and 35mm and in single and double perforation. Film is designed for making quantity color prints of motion pictures and film strips.

McGregor color film is of the subtractive type, the dyes being added during the selective reversal processing. Film is coated on a tri-acetate safety base. A magnetic sound stripe may be added before processing, since the antihalation backing is on the emulsion side.

•

F/1.9 lens on the Brownie — Eastman Kodak Company, Rochester, N. Y., announces that a new model of the popular-priced Brownie Movie Camera will feature an extra-fast f/1.9 Kodak Cine Ektanon fully Lumenized lens. New lens is pre-focused so that Brownie simplicity and picture taking ease are carried over to general movie making. With exception of the new lens, the camera is identical with the standard f/2.7 model. List price of the new model is $49.50.

•

Norwood Meter Conversion — Director Products Corp., 570 Fifth Ave., N. Y. City, announces that owners of earlier model Norwood Director exposure meters may have them converted to the new Color-Matic model for a total

(Continued on Page 420)

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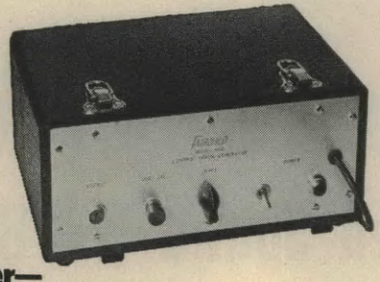
RECORDING

with your present Tape Recorder!

Does your present tape recorder operate at 15 cps? Then add this compact, inexpensive unit and get lip-synchronous sound track recording "on location", using standard ¼" tape and a minimum of equipment.

The Fairchild Model 141 generates control track for picture synchronous recording, "mixes" track simultaneously with program material at 30 db down. No interference with immediate playback. Effect substantial savings by using only the good "takes". Sound studios will process your tape and transfer to film, or you can play tape back in perfect synchronism with a Fairchild Pic-Sync Tape Recorder.

Fairchild Model 141
Control Track Generator
is compact, portable—
$200 f.o.b. Whitestone, N. Y.
5¼" high, 11¾" wide,
11¾" deep; weight 10¼ lbs.

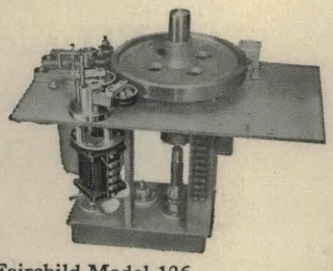


World's Finest

Professional Tape Recorder—

FAIRCHILD Model 126





Fairchild Model 126
Professional Tape Recorder (left)
with patented Syncroll Drive
and Pic-Sync Attachment (above)
installed within console.

No other Tape Recorder offers all these EXCLUSIVE FEATURES!

- SYNCROLL DRIVE insures exactly synchronous tape speed, gives accurate program timing, on-pitch reproduction.
- PIC-SYNC ATTACHMENT (optional) corrects for tape stretch, shrinkage, provides absolute lip-synchronous timing.
- AUTOMATIC FRAMING CONTROL (with Pic-Sync) brings recorder into frame with projector or other equipment, regardless of difference in starting times.
- OVERSIZE CAPSTAN with 180° tape wrap eliminates slippage.
- HIGHEST SIGNAL-TO-NOISE Ratio of any tape recorder assures minimum distortion in recording and dubbing.

Write for illustrated literature and prices.

FAIRCHILD RECORDING EQUIPMENT CORP.

Ninth Ave., Whitestone, N.Y.

WHAT'S NEW

(*Continued From Page* 418)

cost of only $12.50. This service is obtainable through any photo dealer. Older meters are fitted with the new Color-Matic control slide, plus a new, larger, and easier to read scale. Entire meter is then tested, re-calibrated and completely overhauled.

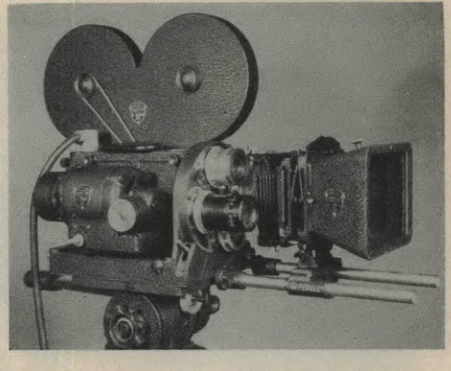
•

Frost Increases Equipment — Jack Frost, 234 Piquette Ave., Detroit, Mich., supplier of motion picture lighting equipment on a rental basis, has increased his stock of modern lighting equipment that will enable him to offer rental service on a national scale. New equipment includes a quantity of 2000-watt Century Lekolites, which may be converted from flood to spot lights, plus a number of Strong Trouper arc lights. Also available are Western track dollies and portable Cine Pro camera dollies.

For rental plan data, write Jack A. Frost, Dept. J, at above address, mentioning *American Cinematographer*.

•

16mm Mitchells — Mitchell Camera Corp., 666 West Harvard, Glendale 4, Calif., announces that for the first time immediate delivery of Mitchell 16mm cameras is available. Receiving immediate delivery on their orders for Mitchell "16's" in recent weeks were:



Eastman Kodak Co., Rochester, N. Y.; Veterans Administration, Wash'n., D. C.; Sturgis-Grant, New York City; Rainbow Pictures, Miami, Fla.

Descriptive brochure and price information on the Mitchell "16" may be had by writing the company and mentioning *American Cinematographer*.

•

New S.OS Catalog — S.O.S. Cinema Supply Corp., 602 W. 52nd St., New York 19, N. Y., has just issued its latest catalog of equipment and accessories for motion picture and TV production. Catalog marks company's 28th year, and is largest ever issued by the company.

DEDICATED TO BETTER PERFORMANCE



COLLAPSIBLE 3-WHEEL DOLLY

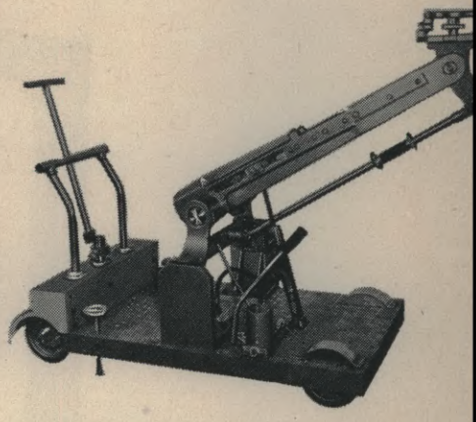
For motion picture and TV cameras. Sturdy cast aluminum. For standard or baby tripods. Additional baby tripod point holders to control spread of tripod legs. Adjustable spring seat. Extra wide rubber wheels. Bronze tie down clamps and other features.

For studio or location. Folds into one compact unit. Can be used with professional or semi-professional tripods.

'HYDROLLY'

TV OR CAMERA DOLLY

The advanced dolly for instant moveability — streamlined, lightweight, exceptionally sturdy. Nothing to get out of order. Many new advantages for easy operation. Hydraulic lift type for fast upward and downward motion of TV and motion picture cameras.



Swivel seat. Adjustable leveling head. Seat for assistant. In-line wheels for track use. Steering wheel, rigid floor locks. Hand pump or combination hand and motor pump. Easily transported in a station wagon. Fits through a 28" door.

RENTALS

SALES • REPAIRS • SERVICE

LENS COATING
"T" STOP CALIBRATION
DESIGNING and MANUFACTURING

lens mounts & camera equipt. for 16mm, 35mm, TV cameras.

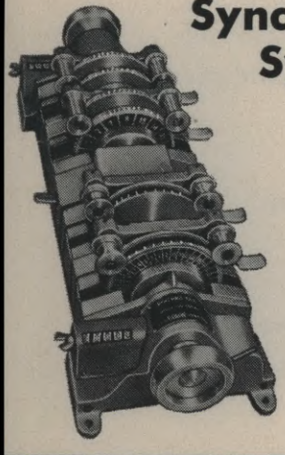
BAUSCH & LOMB "BALTAR" LENSES and others

for motion picture, TV cameras. 15mm to 40" focal length.

COMPLETE LINE OF: 16mm, 35mm cameras, dollies, synchronizers, animation stands, cutting room and time lapse equipment.

BELL & HOWELL: Standard, Eyemos, Filmos. MITCHELL: Standard, Hi-speed, BNC, NC, 16mm.

SEND FOR CATALOGUE

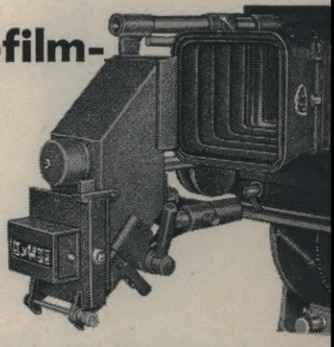


Synchro-film-ed Synchronizer

Our Exclusive Distributor
NEUMADE PRODUCTS CORP.

Any combination of 16mm and/or 35mm sprockets assembled to specification. Cast aluminum. Foot linear type, adjustable frame dial. Fast finger roller release. Contact rollers adjusted individually for positive film contact. Sprocket shaft slip lock, footage counter, etc.

Synchro-film-Slate



Pays for itself in production savings on the set. A New Development! Eliminates clap stick synch and slate on set. Mounts on double arm bracket to work with BNC, NC, Standard, 16mm Mitchell and all types of blimps and Geared Head. Interlocks with Sound Recorder.



PORTABLE MICROPHONE BOOM

For Studio or on Location. Lightweight — collapsible — for TV and motion picture production. Sturdy construction. Boom telescopes 7 to 17 ft. Rear handle for directional mike control. A remote control permits 360° rotation of the microphone. Operator can push the boom and operate microphone swivel simultaneously. Extension rods make it simple to operate microphone rotation from floor. Microphone cable hangs outside of boom, preventing cable from tangling with the rotation mechanism. Ball bearing casters, rigid foot locks, pneumatic drop check for lowering the boom, etc.

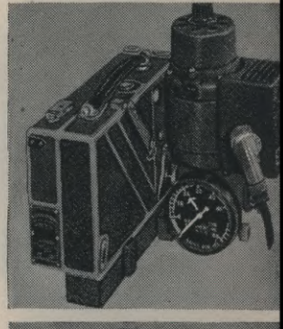
VARIABLE-SPEED MOTOR with TACHOMETER

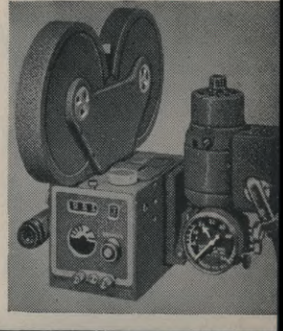
for Cine Special or Maurer Cameras

115 V. Universal Motor — AC-DC
Separate Base for Cine Special.
Variable Speed 8-64 frames.
Adapter for Maurer Camera.

INTERCHANGEABLE MOTORS: 12 volt DC Variable Speed 8-64 frames. 115 Volt AC 60 Cycles, Synchronous Motor, Single Phase.

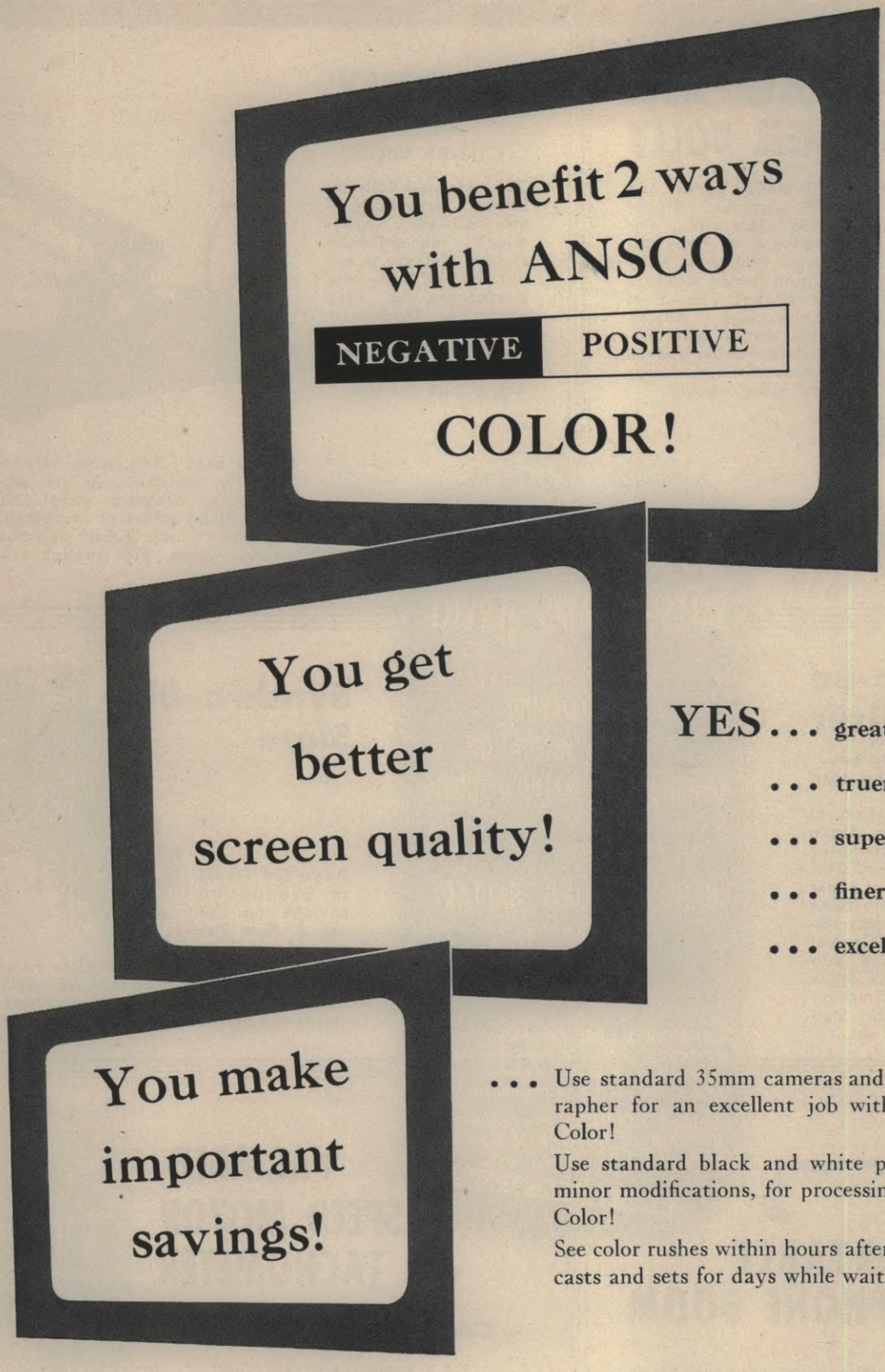
ANIMATION MOTORS: Cine Special, Maurer, Mitchell, B & H Motors, for Bolex and Filmo Cameras.





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YES . . . greater brilliance and depth.

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. . . Use standard 35mm cameras and any competent cinematographer for an excellent job with Ansco Negative-Positive Color!

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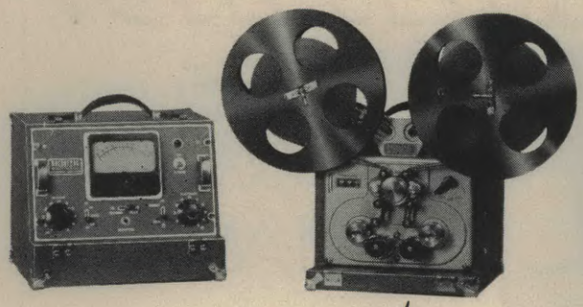
See color rushes within hours after shooting! No need to hold casts and sets for days while waiting to see results!

Get Full Details from your Ansco Representative!

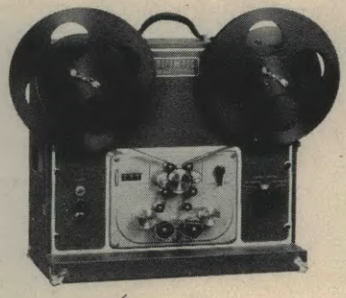
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ANSCO A Division of General Aniline & Film Corporation. *"From Research to Reality."*

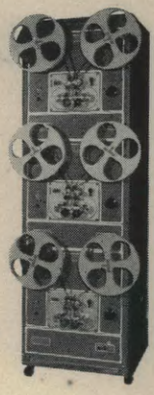
MODEL SW-602
PORTABLE RECORDING SYSTEM

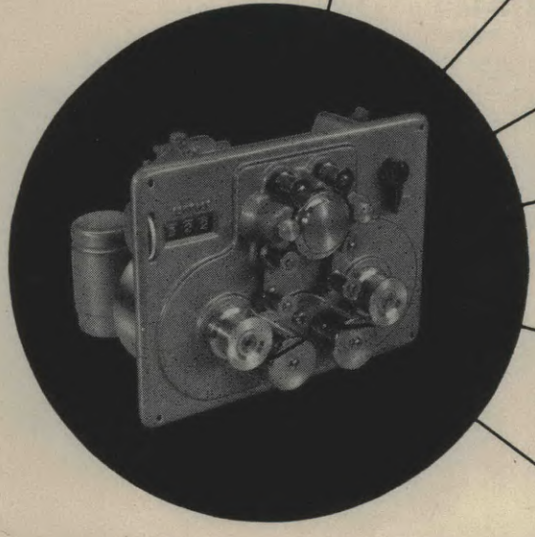


MODEL SW-602-RP
RACK-MOUNT RECORDER
IN PORTABLE CASE

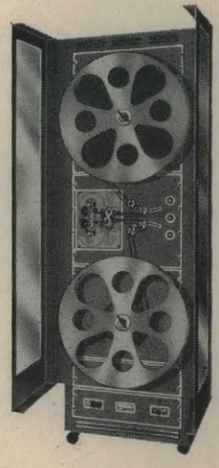


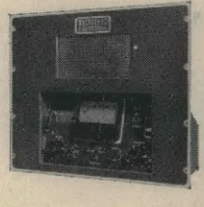
MODEL SW-602-D3
THREE INTERLOCKED DUMMIES
WITH PLAYBACK PRE-AMPLIFIERS



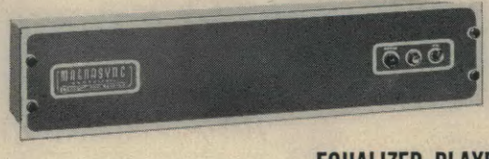


MODEL SW-335
35mm STEREOPHONIC
THEATRE
PLAYBACK SYSTEM





RACK-MOUNT AMPLIFIER WITH SPEAKER



EQUALIZED PLAYBACK PRE-AMPLIFIER

UNITIZED
CONSTRUCTION

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Designed around this famous **"SYNKINETIC"** film transport, all **MAGNASYNC** equipment is built to **PERFORM.**

You can depend on MAGNASYNC!

16mm CENTER TRACK 16mm EDGE TRACK
17½mm 35mm MULTI-CHANNEL

MAGNASYNC
SYNCHRONOUS
Magnetic FILM RECORDER

NORTH HOLLYWOOD, CALIFORNIA

Send for complete technical data

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Cable Address: CINEQUIP

Manufactured by:
MAGNASYNC—P.O. Box 707 • North Hollywood, California

MICROPHONE MIXERS • PORTABLE SUPPLIES • SPLIT-APART REELS • BULK ERASERS

SEEING IS BELIEVING!

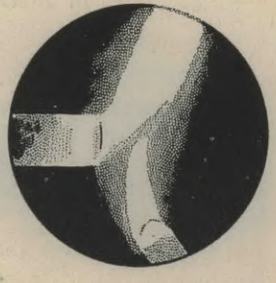
1935 BECKY SHARP

INTRODUCES **3**-COLOR TECHNICOLOR IN ALL ITS WARMTH AND BRILLIANCE, BRINGING NEW HIGH STANDARDS OF PRODUCTION EXCELLENCE IN COLOR-BALANCE AND HIGH-LEVEL STUDIO LIGHTING.



NATIONAL CARBON ENGINEERS REPEATEDLY IMPROVE "NATIONAL" STUDIO CARBONS...INCREASE THEIR POWER AND EFFICIENCY FOR STILL GREATER COVERAGE, DEPTH PERSPECTIVE, PENETRATION AND DIMENSIONAL CONTROL.

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The term "National" is a registered trade-mark of Union Carbide and Carbon Corporation

NATIONAL CARBON COMPANY

A Division of Union Carbide and Carbon Corporation, *30 East 42nd Street, New York 17, New York*

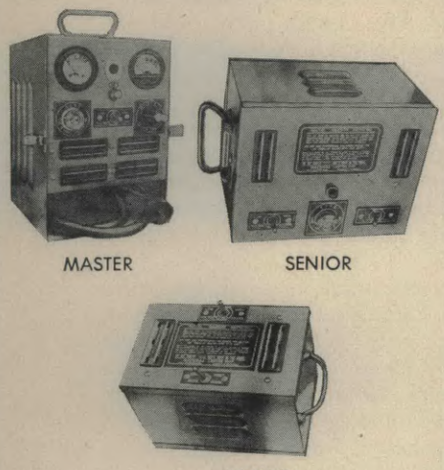
District Sales Offices: Atlanta, Chicago, Dallas, Kansas City, New York, Pittsburgh, San Francisco

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NEW AND USED EQUIPMENT

FOR MOTION PICTURE & TV FILM PRODUCTION

Colortran Converters



MASTER SENIOR

JUNIOR

High powered studio illumination from ordinary house current.

OPERATION: The Colortran is an electrical device which increases the efficiency of ordinary 110-115 volt bulbs by 180%. The PAR 38 150w. bulb, which is recommended here, will give MORE photographic light than a #4 photoflood or TWICE the light of a 500-750 w. spotlight.

CURRENT CONSUMPTION: A #4 photoflood requires 8.7 amperes, whereas a PAR 38 and Colortran needs only 2.5 amperes and gives more light than the photoflood. Three standard 1000w. bulbs will blow a 20 amp house fuse, but the Colortran and SEVEN PAR 38 150w. bulbs will not blow out a 20 amp. fuse. AMAZING BUT TRUE. . . . COLORTRANS DELIVER 3200° and 3450° KELVIN COLOR-CORRECT LIGHT. JUNIOR CONVERTER, 6 receptacles, 2500w. output **$48.75**

SENIOR CONVERTER, 6 receptacles, self-fused, 5000w. output **$76.50**

MASTER MODEL CONVERTER, 12 receptacles, self-fused, with AMMETER, KELVIN METER, Kelvin control 6 position switch, Remote control switch **$135.00**

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F & B MOTION PICTURE TIMERS



CLOCK TIMER—large face, reads minutes, seconds, and 16 & 35mm. footage; resets **$14.95**

STOPWATCH TIMER—continuous or reset, 16 & 35mm footage..... **$18.95**

WRISTWATCH TIMER — same as stopwatch, 17 jewels, luminous **$34.50**

All F & B Timers Fully Guaranteed

PORTABLE VOLTAGE BOOSTER

Portable line voltage booster, Model V-15, designed for use where line voltage may be below normal. Provides full-rated performance from any 110-V device requiring 500-1500 watts.

Meter reads actual line and load voltage. Switch increases 5-volts per step. Can raise 85-volts to 120-volts with 1250-watt load. Weight about 10 pounds. **$59.50**

EXTREME WIDE ANGLE ANGENIEUX RETROFOCUS LENSES

9.5mm f2.2 in 16mm "C" mount
18.5mm f2.2 for all 35mm cameras

Write For Brochure

F & B Film Footage Counter



DUAL SINGLE

★ DUAL model counts 16mm and 35mm separately or together.
★ Two switch positions—SYNC for synchronous interlock with projector, recorder, dubber, etc.; LINE for manual control.
★ Special built-in plug-in receptacle for accessory equipment.
★ High torque sync motors with nylon gears and special lubricants for quiet, smooth drive.
★ Accessories will include interlocking time counter (minutes and seconds) and reading light.
★ All counters are resettable.
★ 110-V, 60 cycle, or to special order.

DUAL MODEL..... **$150.00**
SINGLE MODEL (specify 16mm or 35mm) **75.00**

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F & B Rental Equipment

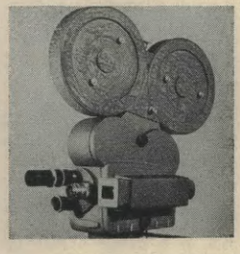
35mm & 16mm

MITCHELL CAMERAS, 16mm, NC, BNC
AURICON SUPER 1200 SOUND CAMERA
AURICON PRO, CINEVOICE, FILMOS
MAURER 16, ARRIFLEX 16 & 35
EYEMOS, CINE KODAK SPECIALS
MOVIOLAS 16 & 35, SYNCHRONIZERS,
SYNC RECORDERS, SYNC PROJECTORS,
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BARDWELL-McALISTER LIGHTS, COLORTRANS

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F & B 600-Ft. Magazine

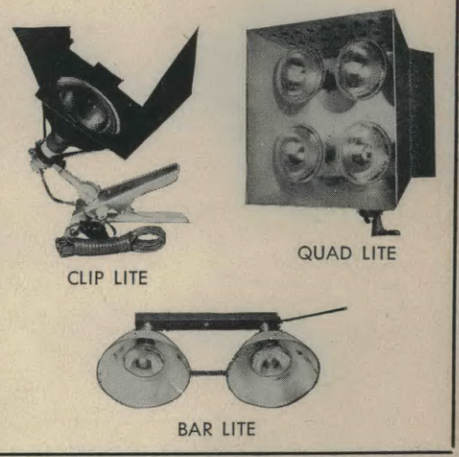
for Auricon Cinevoice Camera



- Takes 100-ft. & 200-ft. daylite spools, also 400-ft., 600-ft. rolls on cores.
- Absolutely noiseless auxiliary takeup motor, velvet-action friction-clutch.
- Camera insert plate insures smooth, steady film movement and excellent sound.
- Camera not cut up. Can be changed back to original form and used in 2 minutes.
- Wrinkle finish matches camera.
- Manufacturer's one-year guarantee.

Write for Brochure

F & B Custom-Built Lights



CLIP LITE QUAD LITE

BAR LITE

F & B QUAD-LITE

Holds 4 lamps, 4 indiv. switches; strong, lite-weight aluminum construction. Ventilated, tilting yoke, 25- ft. #14 cable with Hubbell plug. Fits B-M stand. Very rugged and portable. Can be used with Colortran converters **$45.00**
Carrying case—hold 2 Quads and 2 stands (fibre) **$25.00**

F & B BAR-LITE

Newsreel-type lite; bar for hand-held operation. Individually fused; switches for 110-V or 220-V operation. Rugged, lightweight aluminum construction. With 25-ft. cable **$50.00**

F & B CLIP-LITE WITH BARN DOORS

Invaluable accessory-light. Clips anywhere. Can be used with Colortran. Barn door unit revolves, accommodates diffusers. With 25-ft. cable, switch..... **$15.00**

AURICON CAMERAS

AURICON 16mm sound on film cameras are ideal working tools for the production of Television Newsreels, film commercials, dramatic inserts or local film programs.

Hi-fidelity sound reproduction together with excellent, rock-ready film movement combine to produce high quality sound film which has been praised by all TV networks.

Auricons are always available at F&B either in NEW or Guaranteed Used condition.

AURICON CINEVOICE, NEW, complete **$695.00**
AURICON CINEVOICE, used, complete **525.00**
CINEVOICE with three lens turret, NEW..... **784.00**
CINEVOICE with three lens turret, used..... **575.00**
CINEVOICE with 600 ft. mag. conv., and three lens turret, used **975.00**
AURICON PRO, par. finder, NEW, complete..... **1556.40**
AURICON PRO, par. finder, used, complete..... **1075.00**
AURICON SUPER 1200 NEW & USED..... **AVAILABLE**

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FLORMAN & BABB

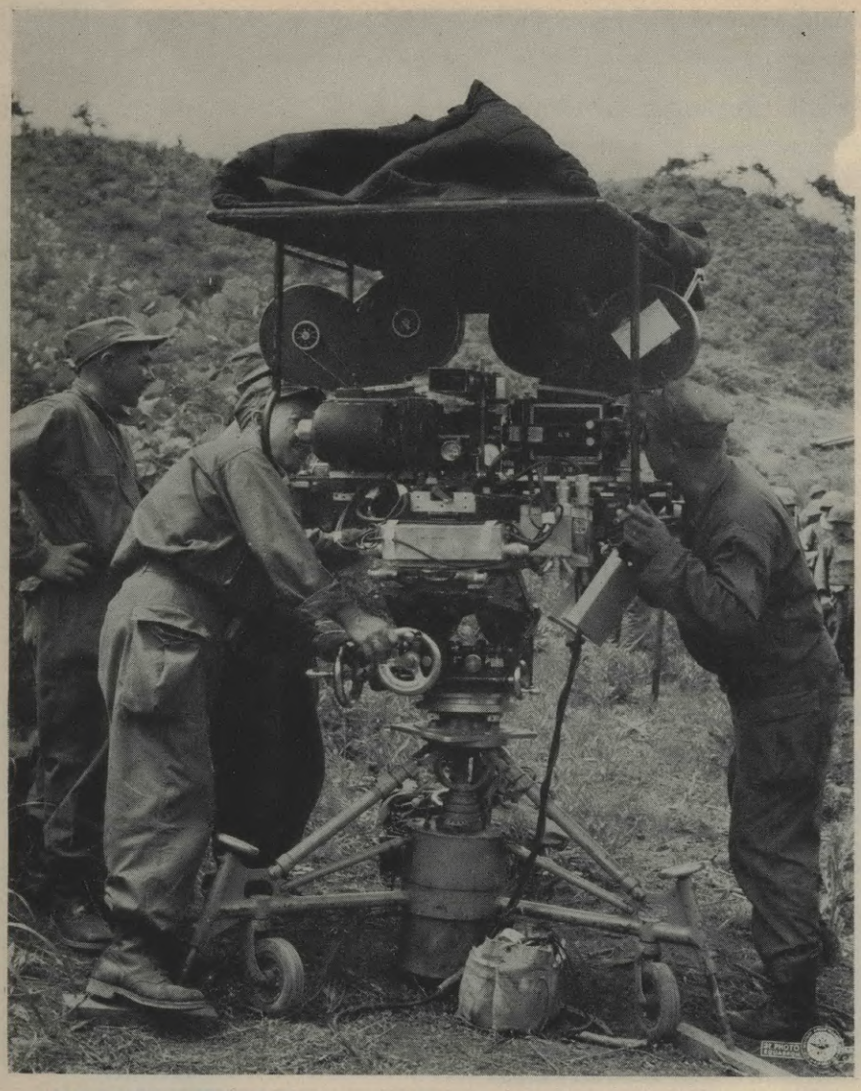
70 West 45th Street, New York 19, N. Y.
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Cable Address – FLORBABB, N. Y.

F&B HAS A COMPLETE STOCK OF NEW AND USED CAMERAS, PRODUCTION, LIGHTING, EDITING & LABORATORY EQUIPMENT

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PARAMOUNT PICTURES' 3-D camera, thanks to aid of Army transport units, was readily moved from one rugged location site to another in the battle zone. Peering through finder at left is director of photography, Ellis Carter, A.S.C.

Filming A 3-D Feature In The Korean Battle Zone

Ellis Carter, A.S.C., with assist from the Army, photographs feature film in battle zone during closing days of Korean War.

By GENE M. BROOKS

Captain, United States Army, Film Project Officer

IT IS TRADITIONAL in the motion picture business that many demands, some reasonable and some not so reasonable, are made upon cameramen. But I wonder if many have worked under conditions as unusual as those which challenged Ellis Carter, ASC, who directed the photography for the Hal Wallis-Paramount-Owen Crump unit which recently filmed a feature in 3-D in Korea. True, many film units have photographed background material in Korea, and the newsreel people have done commendable and spectacular work there under arduous and difficult conditions.

Here is the situation which made this project so unique and challenging: first, this is the only motion picture unit to film a full-length feature entirely in a combat zone; secondly, this is the first American film to be made "on the spot" where the action was happening, using actual persons portraying themselves; and in this case, the "actors" were seasoned front-line combat soldiers. Third, and most unusual, the film was made entirely in three-dimension and was the first to be made by an American company outside the United States.

The project was undertaken by Hal Wallis, in association with Paramount. It was Hal Wallis' vision and imagination which made possible the undertaking of such an unprecedented project. After completing arrangements with the United States Department of Defense and the State Department, the production unit arrived in Korea in early June to commence filming. Within a few days after arrival the crew was living in tents and bunkers in the forward areas of the 7th U. S. Infantry Division within three miles of Old Baldy and Porkchop Hill.

To those of us in the Army who were assigned to work with the unit, surprises were in order immediately. In the first place, one look at the size and bulk of the 3-D camera told us that this would be a project of some extra proportions. As project officer I had to figure some way that the camera and sound equipment plus the other necessities of picture making could be transported into location areas. After many trials with such transport equipment as two-and-a-half ton trucks, medium tanks and tank retrievers, we found the best way to move the camera was to carry it on an M-39 armored personnel carrier, which is built like a tank but has a flat deck and an area for carrying personnel. This vehicle was found to be best because it could carry the camera smoothly and carefully into areas where trucks could not move; also the vehicle was maneuverable enough to climb over obstacles and into areas where even tanks would have some difficulty. I didn't tell the

crew about an additional reason for using the armored carrier, but they soon figured it out for themselves: The heavy steel-plated vehicle is a convenient moving "foxhole," in the event artillery rounds are encountered, and also offers fair protection against unmarked anti-personnel mines.

Two days after arrival of the unit in the 7th Division area, we were filming actual company and platoon size installations upon the most forward blocking position at the entrance to the Chorwon Valley, in the historical and traditional invasion route from North Korea to Seoul. This beginning was only typical of many surprises to come.

The next problem came when we began filming of re-enacted actual combat situations in the area in which they were happening. There is little use in Korea for "blank" ammunition so it was mutually decided that we would use the real stuff. It is a disturbing and not altogether comfortable thing to see tracer ammunition, live grenades and 105mm artillery pieces fired within inches of a valuable camera and its preoccupied crew. I'm glad to say that there were no casualties. The American GI is notoriously a good shot with his M-1 and his carbine, and it is a good thing for picture making that this is true.

The entire crew from the States consisted of seven men: Owen Crump, Director; Jack McEdward, Unit Manager; Ellis Carter, Director of Photography; Camera crew: Bob Rhea, Fritz Brosch and John Leeds; and Jim Miller on sound. Korean truck drivers and laborers were hired to assist, but with the language difficulty and a seemingly natural Korean reticence to tackle anything new, it ended up that the stateside crew "chogied" more heavy equipment up higher mountains than a whole country full of Koreans with their "A" frames. Everyone pitched in and did a major-sized unit job of making this an authentic and real portrayal of front-line and supporting activity in Korea.

For one area selected as a battle position, Ellie Carter decided that if it was to look as bald as Old Baldy, we needed the hill messed up a bit for his camera. Before he was satisfied, we used up over four hundred pounds of demolitions, 250 gallons of napalm and uncounted numbers of live grenades and white phosphorous charges. Our "special effects" department was the 13th Engineer Battalion of the 7th Infantry Division, and Lt. Dave Bills and Ellie Carter blew up more terrain than happens in many good sized battle actions. All this, of course, had been done in areas which were fought over only a short time before filming began, and in some cases had been re-fought over again.

Each one among the crew undertook several jobs, which certainly would not ordinarily be called for in the studio. One of the most interesting of these extra-curricular jobs came during the course of filming a sequence in which we were shown probing for mines. Paramount was understandingly eager to get this sequence completed in order to move on to other shots before the unpredictable weather took over. So rather than wait for the arrival at the location of the soldier who had been previously scheduled to do some special falls and get blown up in the process, Fritz Brosch, the special technician with the unit, volunteered to do the stunt. Fortunately, to preserve the unity of the crew, the GI who had been selected in advance to perform the spectacular fall arrived at the location in time to prevent a possible casuality among the Paramount crew; but such spirit was typical of all activity on the part of the technicians from California and the GIs in the making of this film.



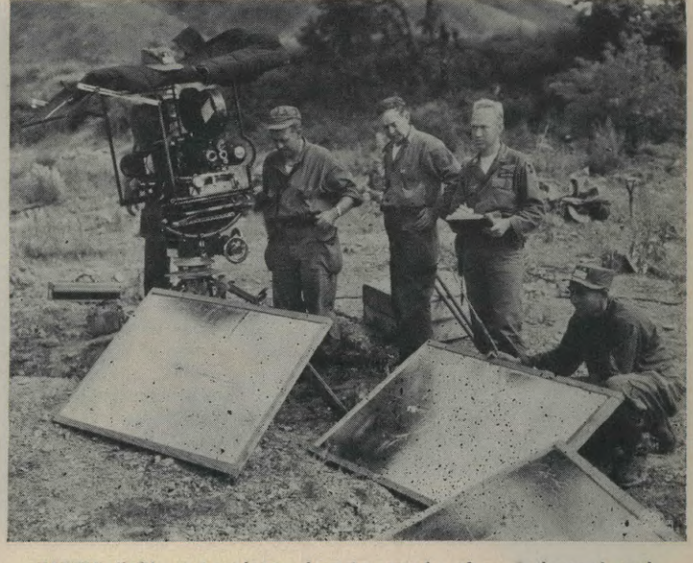
ARMY'S M-39 armored personnel carrier served as camera car and convenient moving "fox hole" for crew in event of surprise attack.

There were many minor problems concerned with shooting which could not be anticipated in advance. The first one to arise was due to the fact that all water used by U. S. Forces in the front

(*Continued on Page* 449)



SHOOTING front line patrol action for sequence in Paramount's forthcoming "Cease Fire." One of the toughest locations in which company worked, only limited equipment could be used.



CARTER (left) contemplates changing angle of one plywood and foil reflector. These often proved too "hot" for fill light requirements for close shooting.

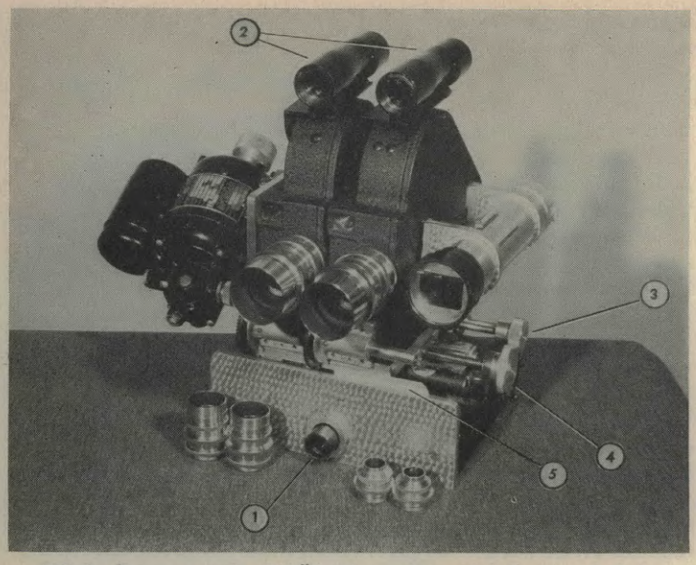


FIG 1—Camera set for 2¼" minimum interaxial. Features include: centerline finder (1); convergence finders (2); convergence adjustment (3); interaxial adjustment (4); and interaxial scale and pointer (5). The zoom finder is on left side of camera; the sync motor on right.

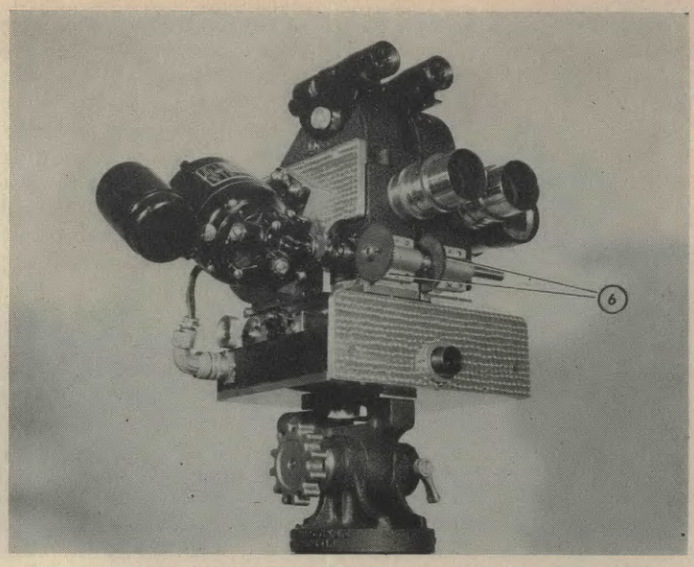


FIG. 2—The interlocking gears (6) slide on a flexible shaft which bends with cameras as they are angled for convergence. The Model E. Cine Kodaks were chosen because of their adaptability to simple mechanical interlock.

A Stereo Camera for Two-Strip 16mm 3-D Photography

Two Model-E Cine Kodaks form basis of this newest 3-D filming unit which has all the features of the best professional cameras.

By FREDERICK FOSTER

AMONG THE TECHNICAL men who have recently designed and built 3-D motion pictures cameras in Hollywood, one in particular has directed his talents toward the production of an efficient camera for 16mm stereo movies. He is Fred Parrish, of Culver City, California, a veteran newsreel and still photographer, and more recently a mechanical engineer well-known for the zoom-type viewfinders which he manufactures for use on professional and amateur motion picture cameras.

Last month, Parrish unveiled his new 16mm 3-D camera after concluding exhaustive field tests that proved the camera an ideal instrument for filming commercial 16mm stereo motion pictures. Its potential use is in the production of sales. industrial, educational and training films.

Parrish's 3-D camera, pictured on this page, consists of two Eastman Model E Cine Kodaks. The coupling of these cameras for stero cinematography follows the best professional methods which have been employed in building the 3-D cameras presently in use in the studios.

The two cameras are mechanically interlocked and mounted on a base which in turn may be mounted securely on a

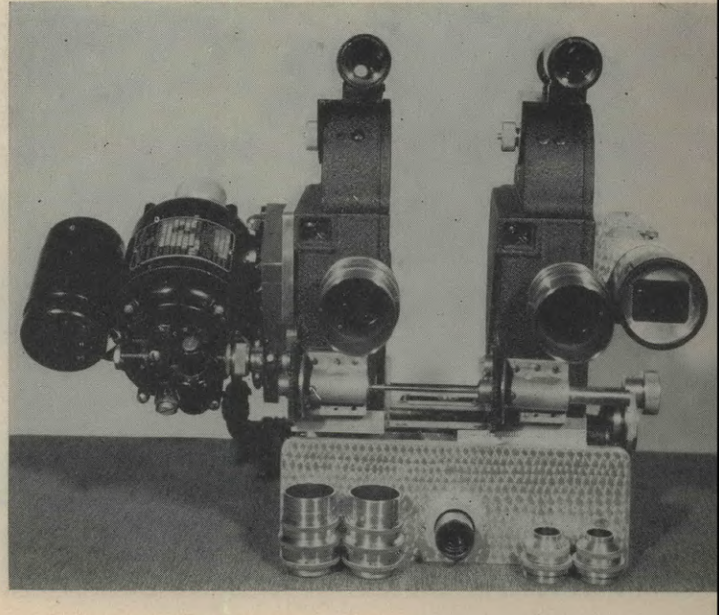


FIG. 3—Cameras extended for maximum interaxial — 2¼ inches. The flexible shaft which controls this adjustment has right and left threads, so that both cameras move exactly the same distance with each revolution of the control shaft. The lenses shown are factory-matched, and made by Wollensak Optical Company.

conventional professional tripod and pan-head.

Parrish chose the Model E cine camera — now a discontinued model — because its film transport mechanism lends itself readily to simple mechanical interlock. Moreover, the camera being narrow in width, permits close setting of the lenses for a minimum inter-axial spacing. Its "humpback" styling not only gives it impressive appearance when coupled in pairs, but provides an ideal mounting for the telescope finders which are used in setting camera convergence.

In the base of the camera is the center-line finder (1), which is standard on most dual-camera 3-D outfits. The twin convergence finders (2) are on top of the cameras. Each has a centering reticle—a tiny dot on one lens element — which is in exact alignment with the optical axis of the camera lens. The convergence finders are readily detachable; each is marked for "right" and "left" and the mounting brackets are precisely machined so that each finder is accurately seated each time it is mounted.

The two cameras, which are pre-set for horizontal alignment, are adjustable laterally for the required interaxial spacing by turning the knob (4, Fig. 1), which is located just below the viewfinder on left side of the camera. Horizontal alignment of both cameras was set by precise optical methods during assembly. This, said Parrish, is extremely important to the production of distortion-free 3-D films, because an error in this alignment, no matter how small, is highly magnified by the time it reaches the screen.

The flexible shaft which controls the cameras in this operation has right-and-left threading. Thus, as the two cameras move progressively away from or toward the center line, they move exactly the same distance for each revolution of the shaft.

This is also true of the convergence adjustment, controlled through knob (3) — the two cameras swing away at the rear in uniform spacing whenever it is necessary to change convergence. The convergence and interaxial can be altered while the camers are recording, when making follow shots, or when filming a player walking toward the camera. These changes are effected by turning knobs 3 and 4, as required. At present there is no convergence scale on the camera; however, this is soon to be remedied. A calibrated scale (5) and pointer are provided on the front of the camera to indicate the extent of lens separation in inches when setting the camera for the required interaxial spacing. The camera permits a minimum interaxial of 2¼ inches, and a maximum of 4½ inches. The scope of convergence is from 4 feet to infinity.

The lenses which Parrish has selected for the camera are factory-matched and manufactured by Wollensak. These range from 17mm wide-angle to 3-inch. He points out that extreme wide-angle lenses cannot be used on this camera because of the limited minimum interaxial of 2¼ inches. To use a 15mm or 12mm wide angle lens would require an interaxial of about 1½ inches, he said.

"An advantage in using the Wollensak lenses," said Parrish, "is the fact we can make follow-focus shots for reasonable distances without need of changing the stop during the take; we merely change the convergence. This is because the Wollensak lenses have great depth of focus."

Complementing the lenses is the Parrish-designed zoom-type viewfinder, shown camera-left in Fig. 1, which indicates the exact field of lenses ranging from 15mm to 150mm in focal length, and which provides manual parallax adjustment.

Powering the twin cameras is a Bodine 110-volt, 60-cycle A.C. synchronous motor, having an rpm speed of 1800. This is stepped down to 1440 rpm through reduction gear, which drives the cameras at uniform 24 fps speed. An "off-on" switch is mounted directly on the motor, and there is a plug-in receptacle for a work-light when the camera is to be used under low light levels or in a blimp. The entire camera, including motor, weighs but 25 pounds, making it an ideal instrument for many professional 3-D filming applications.

To load film in the cameras, they are first racked out to the maximum distance — 4½ inches — by means of the interaxial adjustment knob. The doors are then removed and the film rolls inserted and threaded. One interesting point not previously mentioned is the ingenious way the individual camera interlock gears, shown at (6) in Fig. 2, remain engaged on the drive shaft, no matter what spacing the cameras are set in the interaxial adjustment. The shaft driving the gears is a flexible one, designed thus to provide smooth driving action for the camera mechanisms, even when they are angled for extreme convergence. The shaft simply bends with the angle adjustment. The gears are keyed to the shaft so they slide upon it whenever the cameras are adjusted laterally for change in interaxial spacing.

Filming with the cameras is a comparatively simple process. Parrish recommends use of the Motion Picture Research Council's 3-D Calculator, described in last month's issue of A.C., as a guide in determining the correct set-

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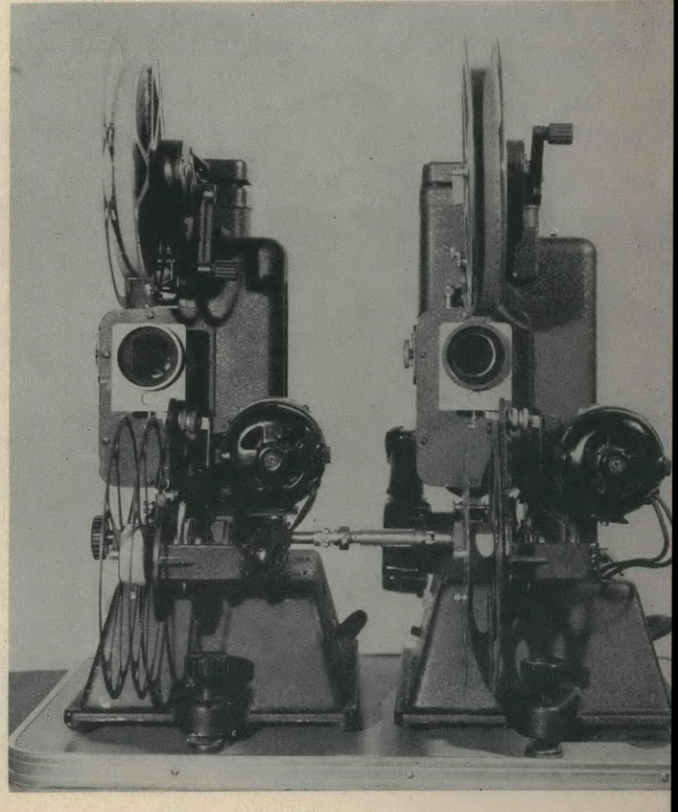


FIG. 4—Two early type Model-A Eastman 16mm projectors were coupled together for screening films made with Parrish's 3-D camera. The interlock consists of two universal joints and a flexible shaft. The machines operate by the original motors, both turning simultaneously, but with one set at slightly higher speed to provide constant drag that maintains the necessary synchronization.

SHOOTING A 16MM TRAVEL FILM IN 3-D

Simplicity of 16mm stereo equipment plus pictorial enhancement that 3-D gives to scenic compositions makes the new medium ideal for travel and lecture film photography.

By ERNST WILDI

Manager, Bolex Division, Paillard Prod., Inc., New York, N. Y.



THE AUTHOR, using Bolex Stereo, captured many picturesque compositions such as this for "Bermuda, Isle of Dreams," first 16mm travel film in 3-D.

THE POTENTIALITIES of 3-D as a medium for travel films are demonstrated in "Bermuda, Isle of Dreams," which I produced recently for the Bermuda Trade Development Board. This is probably the first commercial travel film made in 16mm stereo. The pictorial enhancement which 3-D is capable of lending to travel films portends a new era of production in this field in which stereo will bring to the screen the beauty of new and interesting countries throughout the world with an effect far surpassing that of 3-D in feature films.

Unquestionably, the superiority of the use of stereo for such films will soon attract the attention of many 16mm film producers as well as the advertising and travel agencies. Because the Bermuda Trade Development Board has been a leader in promotional ideas, it was only natural that it would be among the first to recognize the vast potential of 3-D for its travel films. It is believed the Board is the first to promote travel with a 3-D film in 16mm color.

I assigned Gerry Kirk, well-known script writer of commercial and theatrical short-subject films to write the script. Kirk's renown includes credit for collaborating with Owen Crump on the award-winning Warner Brothers' short subject, "Land of Everyday Miracles." After reading considerable travel literature on Bermuda and making a two-day preliminary survey trip to the islands. Kirk and I decided on "dreaming" for the theme of the film—as the title indicates. And since we felt the film would tell its own story as it unfolded on the screen, the narration we added in the concluding phase of production was kept to a minimum.

The moment we arrived in Bermuda, we were at once impressed with the wealth of stereo subject material the islands had to offer the photographer: objects for foreground framing such as colorful flowers, beautiful trees and tropical plants, pastel-tinted homes with their whitewashed roofs sparkling in the background, and the fantastic coral rock formations dotting the surf-washed beaches ringed by almost unbelievable blue waters. Nedless to say, the scenery not only proved ideal for movie making but also added a great deal of enjoyment to our work.

Filming was done with a 16mm Bolex camera and Bolex Stereo—the first complete stereo system for 16mm. It should be noted that the production of a 3-D film differs somewhat from that of an ordinary flat film. There are certain photographic rules which must be followed, most of which have been ex-



SHOOTING almost straight up while lying flat on the ground proved best angle to shoot the model on the ladder at Gibb's Hill lighthouse, Bermuda.

plained in articles in previous issues of this magazine. (See "How To Shoot 3-D Movies In 16mm" in June, 1953, *American Cinematographer*.—Ed.)

To prevent foreground objects from appearing out in front of the screen during projection, thereby giving an unnatural, cropped-off effect, all foreground objects were kept at a distance of not less than ten feet from the camera. For closeups, of course, I shot at a distance of 40 inches, using the Bolex Stereo No. 1 closeup lens, and at 24 inches, using closeup lens No. 2.

Frequent use of foreground objects in 3-D compositions does not, as some may think, make a movie monotonous. Actually, it adds much to a stereo movie, not only in depth, but in pictorial value. On the average shot, keeping foreground objects between 10 and 20 feet from the camera proved most ideal. On the screen, the objects appear just behind the screen or "stereo frame."

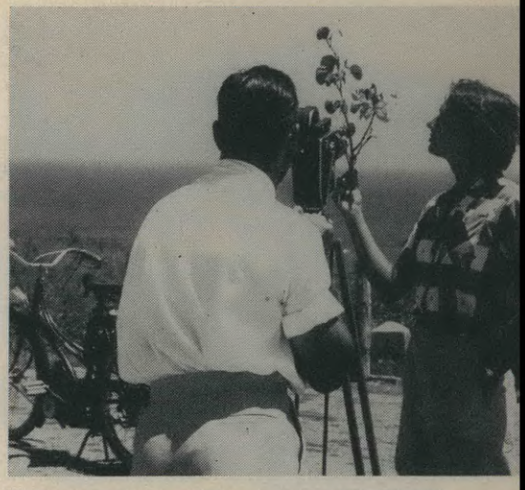
The method I followed to determine the best camera position was to remove the finder from the camera and walk around the scene or subject, studying it through the finder until foreground and background components were nicely framed. This involved a matter of some minutes, which proved the wisdom of using just the finder for this purpose instead of carrying around the entire camera. Using the lighter-weight finder, one can more easily pursue the possibilities of unusual camera angles while flat on one's back or perhaps perched up in a tree. Indeed, while filming near famed Gibb's Hill lighthouse, we discovered a picturesque rope ladder nearby, which led to a tall flagpole used in signalling to ships at sea. It looked like an excellent place to pose a model for a stereo shot, but to include the top of the lighthouse in the background required shooting almost straight up while flat on my back.

Whenever the "out-of-the-screen" effect of stero could be employed for good reason, it was used in the production; but it was not overdone. Objects coming out of, or appearing in front of, the screen are rightfully termed "stereo effects" due to the novel impact such effects have upon 3-D audiences. Such effects were obtained by having subject between 5 and 10 feet away from the camera, (32 to 40 inches when closeup lens I was used; 20 to 24 inches, using closeup lens II.)

For the guidance of other 16mm filmers who would attempt such effects in 3-D movies, here are two important rules to remember:

(1) Subject should be so framed that it does not touch the margins of the finder area at any point; otherwise the stereo-illusion of subject coming through the screen will not be entirely convincing. With some objects, such as a tree or a person, this sometimes cannot be avoided, and in such instances objects should never be closer to the camera than ten feet.

(2) Stereo effects should fit logically into the movie and not be added at random in order to create a few laughs or to shock the audience. A stereo effect improperly used is more disturbing than entertaining, especially in films of documentary nature, such as "Bermuda, Isle of Dreams." Nothing is added to a film by having a flower, however beautiful it may be, apparently suspended in mid-air from the screen. Rather it should be photographed in all its three-dimensional beauty properly placed *behind the stereo frame*, where one naturally expects to see it.



ULTRA-CLOSEUPS of flowers were filmed with the subject held by assistant before camera and using plain blue sky for backdrop. Attached to the Bolex Stereo was a Bolex closeup lens.

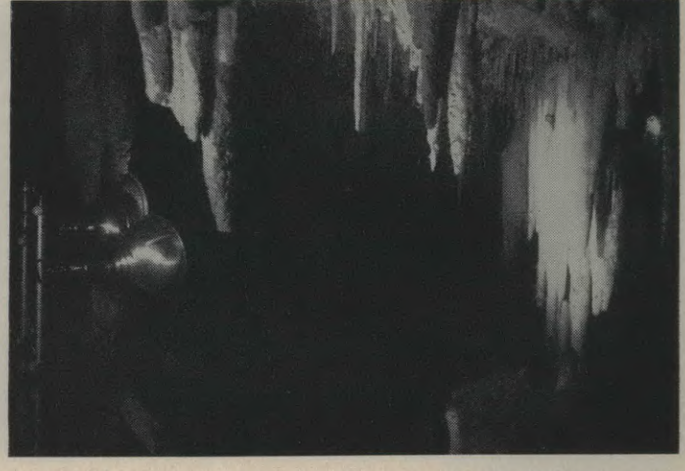
Some of the stereo effects which were included in the Bermuda film included a shot of a single leaf of a palm tree jutting out toward the camera; the rolling surf crashing onto the rocks and throwing back spray towards the camera only 12 feet away; and a golf and tennis ball zooming out into the audience in a sequence picturing favorite Bermuda sports.

"Bermuda, Isle of Dreams" includes a number of scenes filmed with the Bolex Stereo closeup attachments—closeups of colorful flowers, model's faces, fish and turtles behind glass at the fascinating Government aquarium, and black fish

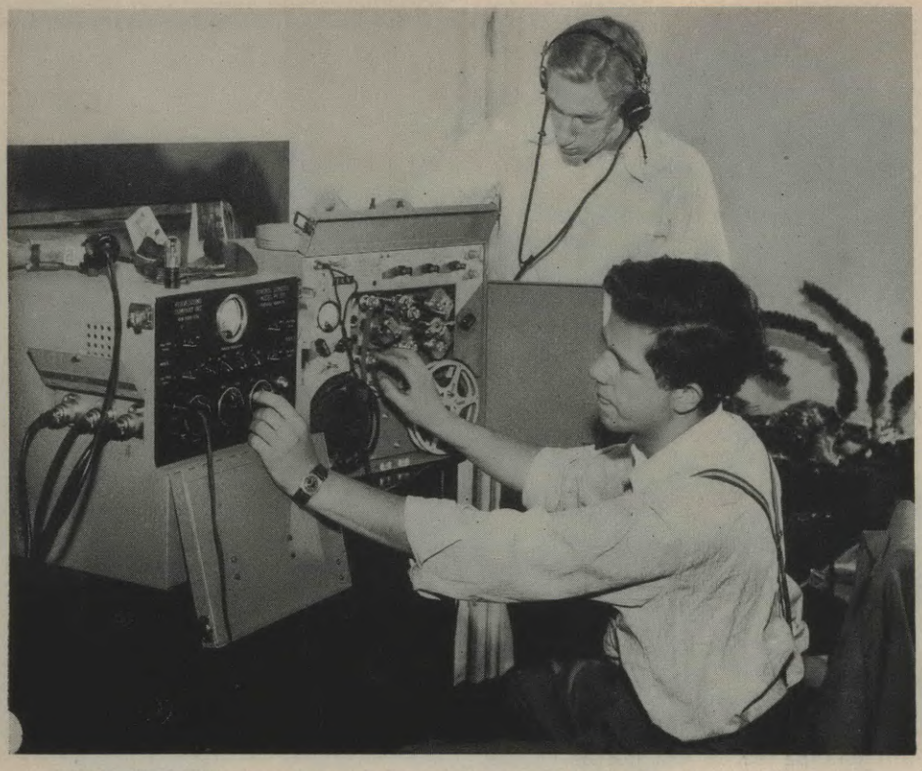
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EXAMPLE of carefully planned setup for 3-D composition for a night sequence for the Bermuda travel film. The Bolex 3-D camera is at far left. The depth composition begins with full-lighted couple in foreground. Additional photolamps illuminate couples on dance floor.



ONE OF THE most interesting sequences in the film is the series of shots made in Bermuda's underground caves. Here five No. 2 photoflood lamps in reflectors mounted on standards were used to illuminate the great depths and the highly colorful formations.



YOU'LL PROBABLY choose one of the popular magnetic recorders for your first sound production. They're simple to use and provide advantages not found in optical sound systems, chief of which is ability to immediately play back tracks for approval or correction. Here a non-professional group records sound for a college film production in 16mm, using magnetic equipment.

Preparing the Sound Track

If you are planning your first sound-film production, this summary of recording procedure may save you time and money.

By CHARLES L. ANDERSON

NO MANUFACTURED ARTICLE in the world, perhaps, is so standardized as sound motion picture film. A 16mm or 35mm print can be run on any sound projector of the respective film size, with perhaps only a slight adjustment necessary for sound volume. But however well the finished product conforms to certain standards, the methods of putting together the original sound recordings are surprisingly numerous.

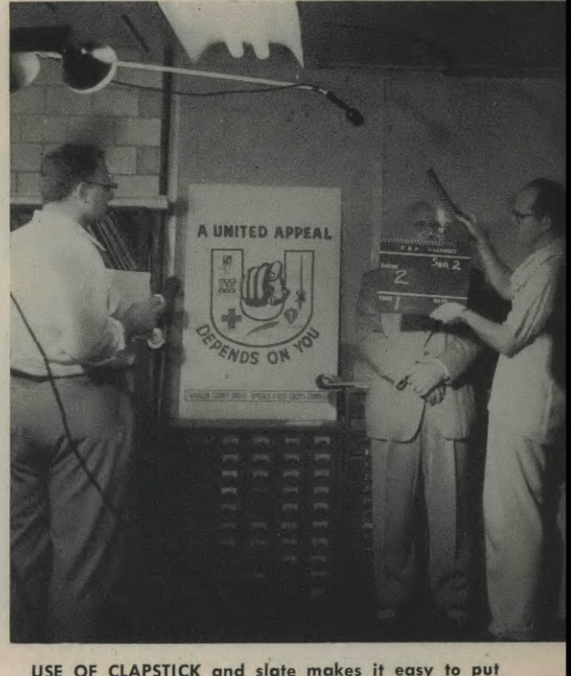
More than one independent 16mm film producer has found himself floundering in a maze of sound tracks when producing a public service or small commercial film on his own for the first time. He suddenly learns that tracks must be set up to fit the re-recording facilities on hand and that decisions must be made about procedures that, until beginning sound work, he had thought were all cut-and-dried.

Even those film makers who never edit their own pictures may face questions of matching their sound system for a dialogue scene to the equipment at the editing rooms and sound studio. A mistake in choosing between single- and double-system optical, or magnetic film and magnetic tape, could mean a loss of time and money.

A sound film may or may not involve re-recording. That seems to be the basic division of the many methods in use. Single-system sound films for television are usually shown without re-recording. Filmed interviews, political talks, and simple commercials fall into the single-system category, and seldom require the addition of music or sound effects which involves re-recording. With more complex films, re-recording can be avoided if the background music and sound effects are played from phonograph records as the narrator reads his talk. This method long has been in use in commercial studios such as Telefilm in Hollywood, and makes it possible for one recording session to accomplish the work of two.

Soon after the movies learned to talk, basic methods of preparing tracks and "dubbing" were established, and they remained virtually unchanged in 35mm work until magnetic sound arrived. Film companies have solved the problem of adding music and sound effects to the finished film by playing them on "film phonographs" along with the dialogue tracks. The sound impulses from the several different tracks are monitored at control boards and fed together into a film recorder. In this basic system, as many reels of sound track must be prepared as there will be different sounds blended at one time. Feature films commonly have two dialogue tracks, two music tracks, and two or more sound effects tracks. And since features are generally from six to eight reels in length, one can imagine how fast sound tracks pile up in the editing room.

The different sound tracks prepared for each reel are combined during re-recording, or dubbing, sessions. (The term *dubbing* is also frequently used to mean the recording of dialogue to fit a scene



USE OF CLAPSTICK and slate makes it easy to put sync marks on both picture and sound films. These are matched up in editing to insure synchronization.

that was shot without sound.) In this operation the dubbing engineer and his assistants project the picture work-print in sync with the reels of sound track played on a film phonograph. When the sound tracks have been balanced correctly in trial runs, they are played again and recorded.

The Hollywoood method of setting up and dubbing from multiple sound tracks has also been used with success for 16mm productions. Until magnetic sound systems appeared, the main difference between 35mm and 16mm re-recording was that there was often a danger of losing fidelity with the smaller film. The width and traveling speed of 35mm sound tracks are quite a bit beyond the minimum standards for good reproduction; those for 16mm tracks just about equal minimum requirements. (Within the last few years improved recorders and new film emulsions have been placed on the market that produce improved sound quality on 16mm, but the demands for still better quality continue. Television film equipment and new theatre-type 16mm projectors demand and are prepared to handle better quality sound than is presently available.)

Installations of first-rate 16mm optical film phonographs have never been very common, and producers outside the biggest cities often use regular film projectors for dubbing. One machine projects the picture work print, while others handle the various tracks. Equipping these machines with the necessary synchronous or interlock motors is an extra expense, but it assures sound tracks in exact synchronism. This feature is especially necessary for lip-sync sequences and for sound effects that closely match screen action.

The projectors and recorders used should be in perfect condition for re-recording, otherwise sound distortions will be increased. Errors in the original sound negative will be amplified considerably when the print is played into the same recorder. Generally, music receives preference where quality is concerned. For this reason the music track is often played on the best projector or film phonograph. When an editor takes his music from phonograph records, as is done for most 16mm industrial films, he may wish to have the disks played on a turntable during the dubbing rather than transfer them to optical film before the final recording. This procedure eliminates the distortions of one recording-and-playback cycle.

Film technicians agree that magnetic sound is the most important development in motion picture sound work of the last twenty years. Although Hollywood studios have the largest dollar investment in magnetic equipment, its influence has been strongest in the non-theatrical field. Industrial, educational, and television film producers have been the first to benefit from magnetic's advantages. Preparing sound tracks has been complicated in some ways by the addition of magnetic equipment. But once a given program is agreed upon, it's as easy to use as the optical system.

A typical industrial filming application of magnetic sound is found in the set-up of one San Francisco producer. He prefers to be as independent as possible of outside facilities, and so he handles all his own sound recording and dubbing. Four 17½mm magnetic recorders are rack-mounted in the booth of his projection room.

The narration for this producer's films is recorded before editing so that the editor may use it as a guide. Picture work-print is a 16mm b. & w. reversal print from the Kodachrome Commercial original. No work print, optical or magnetic, is made from the narration recording, which runs through a Moviola and a synchronizer along with the picture print. Special cutting facilities, which have been provided for magnetic sound here, are a 17½mm splicer, a 16-17½mm synchronizer, and a Moviola with 16mm picture head and sound head adaptable to 17½ magnetic as well as 35mm optical tracks.

Once the picture has been cut and the narration spaced to fit it, sound effects and music tracks are prepared on more 17½mm magnetic film. Sound effects are transferred from "wild" tape recordings made in the field to magnetic film. The music tracks are prepared from disks of licensed background music. As an economy measure, the editor breaks down narration and music tracks of completed pictures into spliceless lengths for the sound engineer, who transfers new sound effects and music to them.

Each reel of a picture usually has four sound tracks to be combined. As there are just three machines to play tracks, besides the one used for record-

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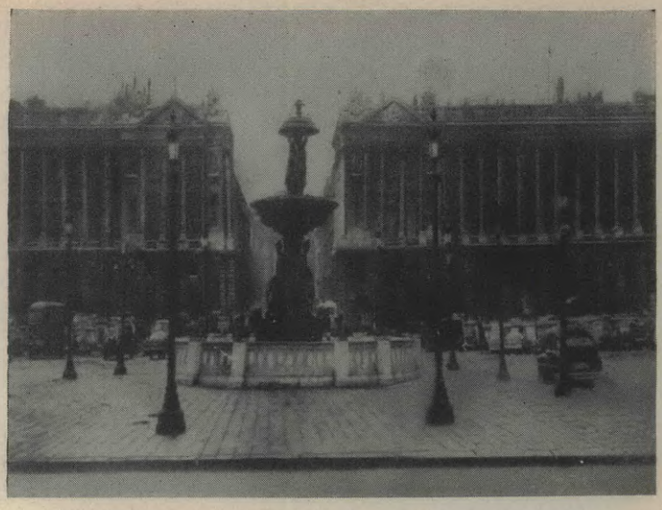
THE MANY portable magnetic and optical sound recorders now available make it easy to record sound films in 16mm in any location. Prohibitive recording costs are eliminated because only a limited staff is required.



AFTER the sound is recorded, it is the sound editor's job to cut and synchronize it with the picture negative. For this the professional has special equipment plus unlimited experience.



PICTURE obtained by photographing with an ordinary motion picture camera lens with normal field.



COMPRESSED picture obtained by photographing with anamorphic type lens. Image is "squeezed."



SAME SCENE as recorded on film (above, right) and expanded in projection process by an anamorphic lens.

Cinepanoramic—New French Anamorphic Lens

Newest lens for panoramic pictures is similar to CinemaScope; produces 2.50-to-1 image compressed in standard 35mm film frame.

By ARTHUR ROWAN

FRANCE, WHICH GAVE BIRTH to the anamorphic lens that ultimately became CinemaScope, and led still later to development of Vistarama, has produced still another panoramic lens system, which the originators have called "Cinepanoramic." The lens was announced for the first time in a published description which appeared in the French motion picture trade paper, *Le Film Francais*, for July 10, 1953.

Unlike the anamorphic lens developers which preceded the originator of Cinepanoramic, the latter also developed a special screen and a stereophonic sound system so that Cinepanoramic—in the projection stage—actually is a complete system.

According to Mr. J. P. Mauclaire, of the Cinepanoramic organization, the company's "squeeze" lens used in photography is the now familiar anamorphic type, composed of cylindrical elements. The lens permits photographing on standard 35mm film a 2.50-to-1 image area which is compressed within the limits of the conventional 35mm film frame. Mauclaire adds that the lens can be adapted without difficulty to all standard motion picture cameras. The company is understood to be using it on both the DeBrie and Cameflex cameras.

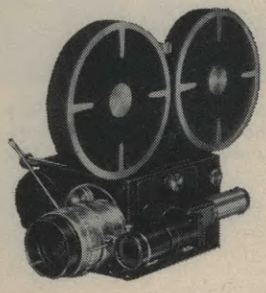
"The indispensible complement to the panoramic screen, said Mr. Mauclaire, is stereophonic or dimensional sound that allows the audience to follow the movements of the source of

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If your camera is here . . . you too can ZOOM from 20mm to 60mm with this variable focal length lens

Pan Cinor®

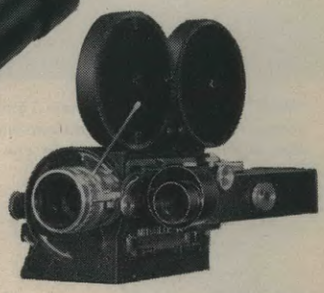




Maurer Camera drops its own finder. Its regular "C" mount turret accepts Pan Cinor without further modification.

In line with its policy, "Bolex brings the best to 16mm Movie Making," the Pan Cinor variable focus lens was introduced to Bolex movie makers a year ago. Because of the demand from both professional and amateur owners of other cameras, we explored the possibilities of fitting the Pan Cinor on cameras other than the Bolex. Here are the answers. Now you, too, can enjoy zooming from wide angle to telephoto at the flick of the lever. Maximum aperture f/2.8. Complete with coupled variable view finder,

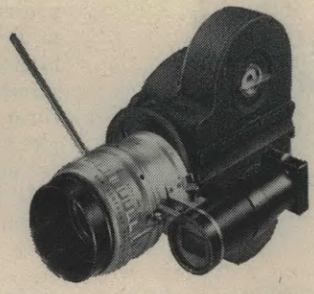
$447.50



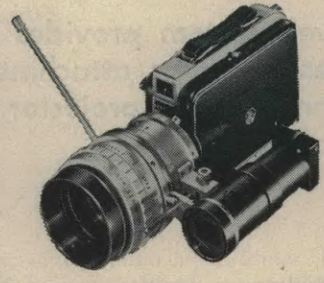
Mitchell Camera. Remove Pan Cinor finder. Use "C" mount adapter. Turret knob diameter is turned down.



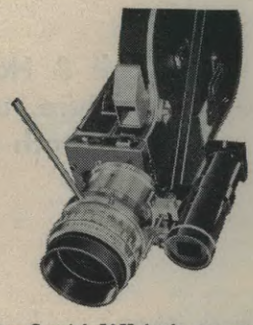
Auricon Cine Voice Camera. Suggest special door without its viewfinder. Purchased from Berndt-Bach for $42.



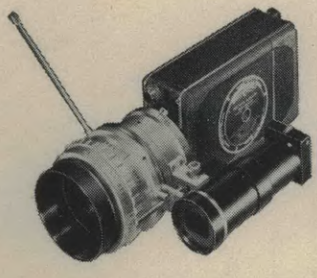
Bell & Howell 70. Suggest special door without its viewfinder. Installed by B&H Service Center for $35.



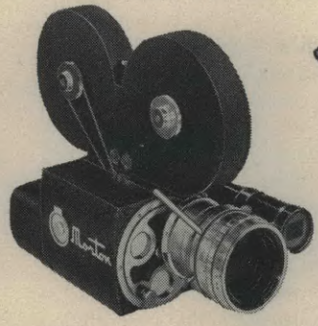
Keystone 16mm Magazine or roll cameras in general need no special adaptation for Pan Cinor and finder.



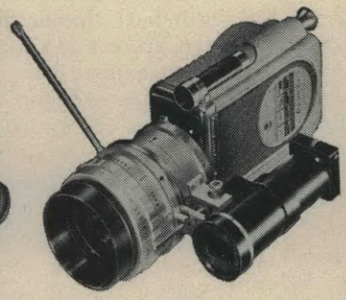
Cine Special I&II both use model I turret drilled & tapped for C mount by Kodak Service, 343 State St. Rochester.



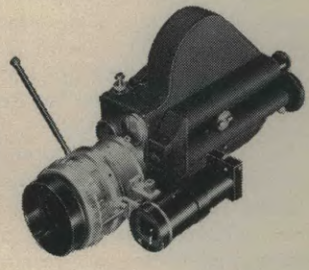
Bell & Howell Auto load. Auto Master and Model 200 mount the Pan Cinor and finder with ease.



Morton Soundmaster drops its finder, and shortens the Pan Cinor lever to clear the film magazine.



Revere Magazine Camera model 16 and model 26 mount the Pan Cinor lens and finder with ease.



Pathe Super 16. Instead of the Pan Cinor Viewfinder, its own reflex finder may be used for viewing.

Bolex® brings the best to 16mm Movie Making

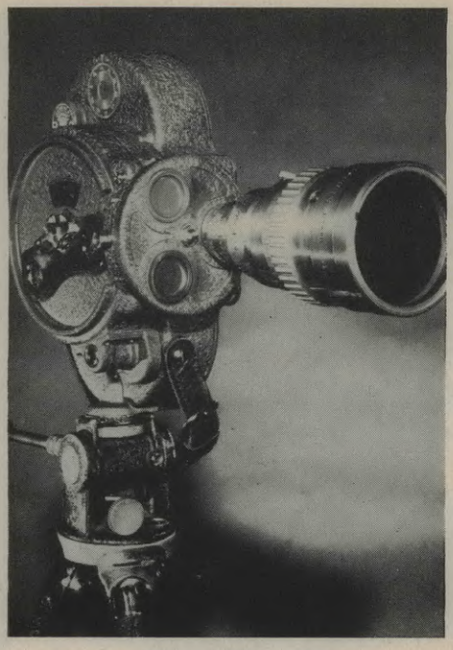
Pan Cinor is manufactured by SOM BERTHIOT

Bolex paillard

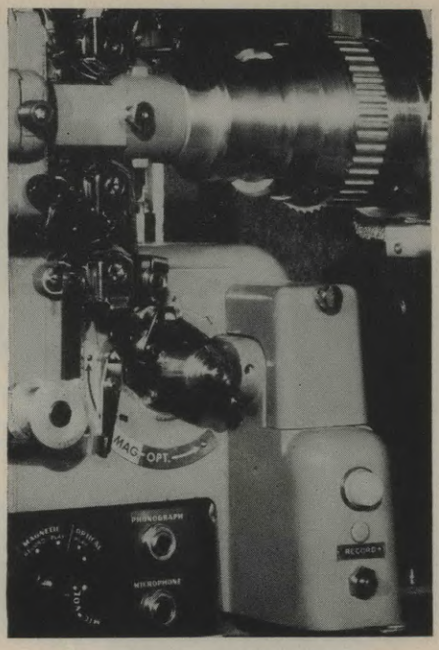
Sole Importers & Distributors
Paillard Products, Inc.
100 Sixth Avenue,
New York 13, N. Y.



HEART of Bell & Howell's new 16mm wide-screen system is single anamorphic lens that squeezes wide picture in one frame.



SPECIAL adapter enables attachment to be readily mounted on 16mm camera lens for filming wide-screen movies.



SAME attachment mounted on projector expands the squeezed image, projects it on a wide screen having a 2.50 to 1 format.

Wide Screen For 16mm Movies

New Bell & Howell system provides a 2.50 to 1 picture, uses one lens attachment for both camera and projector.

By JOHN FORBES

MAKERS OF 16MM industrial, educational, training and lecture films—and movie amateurs, too—may now produce their pictures in the panoramic format of CinemaScope, which 20th Century-Fox has developed for feature films. A similar wide-screen system with stereophonic sound for 16mm movies has been developed and already has been demonstrated by Bell & Howell Company, Chicago.

The Bell & Howell system has been patterned after CinemaScope. Demonstration scenes from "The Robe" and other CinemaScope films reduced to 16mm were screened recently before members of the National Audio-Visual Association during the Association's convention in Chicago.

A single anamorphic or "squeeze" lens attachment is used for both photography and projection. The attachment fits the projector lens and is also used on the camera lens with a special adaptor. The attachment may be used on other 16mm cameras and projectors, besides those of Bell & Howell. In photography, the anamorphic attachment compresses a wide picture area and records it within a single frame of standard 16mm film. In projection, the process is reversed, and the attachment expands the compressed image of the film and spreads it to normal dimension on a curved screen. The projected picture is of normal brilliance, and fills the curved screen which is 2.5 times as wide as it is high. This expanse covers more nearly the normal field of vision of the human eye, say Bell & Howell engineers. The peripheral, or side, as well as the "straight ahead" vision of the viewer is brought into play, and a strong sense of depth and participation in the scene is created without the need to wear special viewing glasses, as for 3-D movies. The depth illusion is further heightened by stereophonic sound, which emanates from the part of the screen where the action takes place.

At the demonstration, the film was projected with an aspect ratio of 2.50 to 1 on a curved Radiant screen 8 feet high and 20 feet wide. A new type of screen fabric was used to provide uniform brilliance from all viewing angles. The same screen may also be used for screening 3-D movies.

It is not hard to visualize what an impact a picture 20 feet in width could have on student and lecture film audiences accustomed to seeing 16mm mov-

(*Continued on Page* 458)

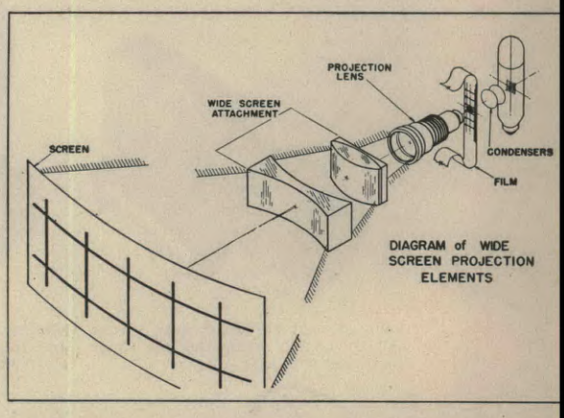


DIAGRAM of WIDE SCREEN PROJECTION ELEMENTS

IN SCREENING 16mm films made with Bell & Howell wide-screen attachment, projected image passes first through projector lens in compressed form, is spread out as it passes next through the anamorphic attachment and thence to the curved screen having a 2.50 to 1 aspect ratio.

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FILMS

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Fort Lee Chicago Hollywood

Making Your Movies Easy To Look At

How to acquire the professional cinematographer's skill for pictorial composition.

By C. C. CHUVAX

MOVIES WHICH GREATLY influence audiences and particularly the scenes which live a long time in one's memory are invariably those in which special care was given to pictorial composition by the ciné photographer. Where pictorial compositions are not easy to look at, are not "easy" on the eyes, the whole film is bound to suffer no matter how interesting the plot or subpect.

Perhaps one of the most important reasons a given picture is easy on the eyes is the balance given the scene compositions. Balance, however, is not just a one-way street. A picture or scene should be balanced both vertically and horizontally, otherwise it will appear one-sided or top-heavy, or both.

Horizontal balance becomes the simple matter of placing so called "heavy" objects in the extreme right and left hand edges of a scene or pictorial composition. One such heavy object should equally counterbalance the other, and neither should be so prominent as to "steal" from the point of interest. Such objects most commonly used in horizontal balancing are trees, rocks, animals, etc., and in some cases may be people acting as observers for the point of interest.

Vertical balance takes us back to the golden rule of exterior photography: "1/3 sky and 2/3 picture." This means that the horizon should cut through the upper half of the picture, and preferably about one-third of the way down from the top. This becomes very simple to achieve while looking through the viewfinder. A fifty-fifty vertical balance will let the horizon cut the picture in half and give it a "stiff" appearance. If two-thirds of the picture is sky, it is wide open, and may cause many an observer to ask what was the objective in filming the scene.

Closely related to the horizontal and vertical balance of a picture are "framing devices." The principal difference between balancing devices and framing devices is that framing devices are almost always in the foreground where sharp focus and full exposure are not always considered essential. Balancing devices, while not always in the foreground, usually share sharpness and exposure with the principal object of interest. The framing medium for a foreground should be well chosen as it usually provides the portals through which the eye must pass on its way toward viewing the chief point of interest.

Such framing mediums may be trees, the low hanging branches of a tree, shrubs, or an archway of a bridge or tunnel. Regardless of what they may be it should be remembered that by their use you are forming the doorway of a picture—not the picture itself.

Framing foregrounds may offer exposure problems that, more often than not, will conflict with the point of interest. In such a case the best practice is to expose for the point of interest and let the framework follow through. If frameworks are chosen which are darker than the point of interest, slight underexposure will result, which provides a doorway with a command to enter.

Once the framework has got the eye inside the picture it must be slowly and subtly led to the point of interest. This is done by means of a "sign post" or road marker placed along the way, from the framework to the point of interest. Such guides should appear casual in the picture, as though their being there was quite accidental. In no case should they be so prominent as to suggest that their presence was deliberately planned. If the filmer will remember that the functioning of these guides is to point the way, and that they are not stopping places, mastery of their use will become much less difficult.

A winding country lane is perhaps

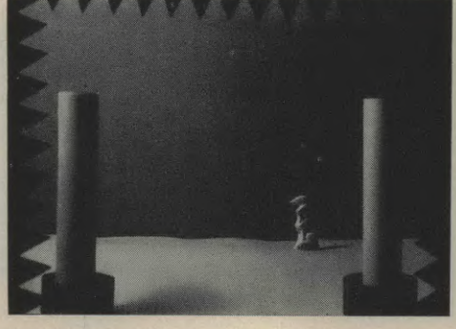
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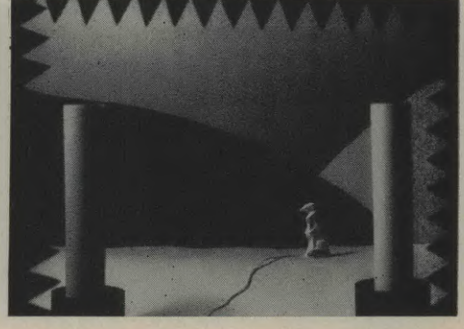
A PICTURE having but a single object as the subject has little or no eye appeal, and is meaningless pictorially.



ADD TO IT framing elements and it begins to take on depth. There is now a doorway through which the eye may enter.



HORIZONTAL balance is given the picture with the addition of objects placed prominently in the foreground at either side.



ADDING the horizon line plus a "lead" line to the object gives vertical balance and provides a well-rounded composition.



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You'll get a real thrill out of the crispness and brilliance that Ansco Hypan Film brings to your black-and-white movies!

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At Hypan's down-to-earth price you'll find you can take lots more movies for your money, too—and still be proud of every foot you show! You'll find Ansco Hypan Film at your photo dealer's, in 8 and 16mm magazines and rolls.

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ANSCO COLOR FILM

In 8 and 16mm magazines, and 16mm rolls

Ask For It at Your Dealer's!

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A Division of General Aniline & Film Corporation. "*From Research to Reality.*"

Here Are Rules For First 16mm 3-D Film Festival

Event will showcase 16mm 3-D amateur and professional motion pictures made with Bolex, Elgeet and Nord Stereo attachments.

By ARTHUR GAVIN

IN LESS THAN 30 days—on October 1st, to be specific — American Cinematographer's first 3-D Film Festival for 16mm stereoscopic motion pictures will get underway. This means that readers who plan to enter their 3-D films in this Festival have but a few weeks to polish up on their editing, do their sound recording (where sound is to be a part of the entry) and get the film into the mail or to the Express office.

The rules which apply in this Festival appear below. The Entry Blank, which appears next to the rules should be clipped from the page, filled out, and mailed as soon as possible. *It should be sent to the Festival Chairman in advance of the film entry.*

The editor has received a number of letters asking why the festival is being limited to single-strip 3-D films? There are two reasons for this: First—the Festival is primarily for showcasing what the amateur, semi-pro and even the professional can accomplish when using any of the three 16mm single-film systems presently available to the amateur movie maker. These include the Bolex, Elgett, and the Nord. Second—to accept twin-film 3-D entries, many if not all would require use of the projection equipment designed especially for the respective films. Obviously this would be impractical.

The Committee will have available at the Festival the screening equipment of the three systems named above. In addition, there will be sound equipment for playing back the various types of separate sound recordings which are expected to accompany many entries.

Because of the difficulty experienced in the past with wire recordings, this medium will not be considered by the Committee.

Additional requirements for those who plan to enter films in the Festival

(*Continued on Page* 442)

ENTRY BLANK

(Clip And Mail In Advance Of Your Entry)

Chairman,
American Cinematographer
3-D FILM FESTIVAL,
1782 North Orange Drive,
Hollywood 28, Calif.

Sir: I plan to enter my film entitled:_____

in your forthcoming 16mm 3-D FILM FESTIVAL.

My film is_____feet in length, in color_____, black-and-white_____. It has sound: on film (optical)_____; on film (magnetic)_____; on separate tape or film (magnetic)_____; on discs (synchronized)_____.

Brief description of film subject or content_____

I will ship this film to you on or about (date)_____

NAME_____

STREET ADDRESS_____

CITY_____ ZONE_____

STATE_____

ENTRIES ACCEPTED AFTER OCTOBER 1ST, 1953
CLOSING DATE FOR ENTRIES, DECEMBER 1, 1953

RULES

- Festival is open to all makers of amateur, semi-professional and professional 16mm single-film three-dimensional motion pictures, black-and-white or color, sound or silent.
- Only 16mm 3-D films made on a single strip of film and requiring but a single 16mm projector for screening will be acceptable.
- Entries should not exceed 1200 feet in length.
- Each film should have a main and end title, plus descriptive titles where no sound is provided.
- All entries should be completely edited films, i.e.: they should have reasonable continuity (not be merely an assemblage of random shots, although well-photographed novelty series if 3-D trick sequences will be accepted in lieu of a strictly continuity film).
- Films may be either sound or silent. Where the sound is separate from the picture, it must be easily synchronized and played back. Acceptable sound mediums are: optical sound on film; magnetic sound on film; sound on separate but synchronized tape or film; sound on disks. Magnetic wire recordings cannot be accepted.
- All film reels and cans must be securely labeled with the name and address of sender.
- All films must be shipped to the Festival Committee prepaid, and provisions mad efo rtheir return, either prepaid or collect.
- Entrants residing outside the continental United States must conform with all the requirements necessary for their films to clear U.S. Customs, as well as those necessary to facilitate their return without imposing taxes, duty, and other costs on the Festival Committee. Transportation charges for return of films should be determined in advance, where possible, and the cost in the form of an International Money Order sent along with the entry.
- No films will be considered after midnight, December 31, 1953.



3-D ...with Bolex

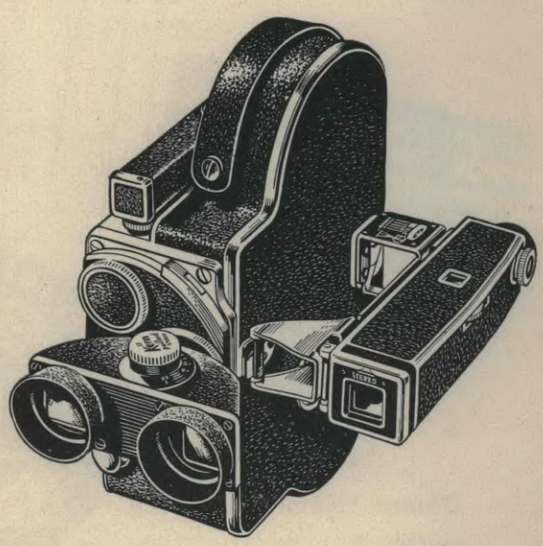
The newest Bolex thrill is here . . . movies that come alive with 3-D! Make your own . . . here is the kind of film magic that has coast-to-coast audiences spellbound in the large theatres.

Yes, Bolex can now see like your eyes do—through twin lenses integrated with the Bolex H-16 camera . . . and Bolex 3-D filming is as easy as regular 16mm movie making!

Of all 3-D systems, the Bolex system is based on the finest, most efficient optical principles; the easiest and most economical operating methods.

The Bolex H-16 is the camera most wanted by serious movie makers . . . the camera that has won 13 out of 16 of 1953's top filming awards! So join the ranks of this newest and most challenging group of movie makers . . . secure in the knowledge that with Bolex you'll do it best!

From yesterday's rollicking good times in 2-D movies, to today's flashing action in 3-D; you'll cover the whole range with the Versatile Bolex H-16



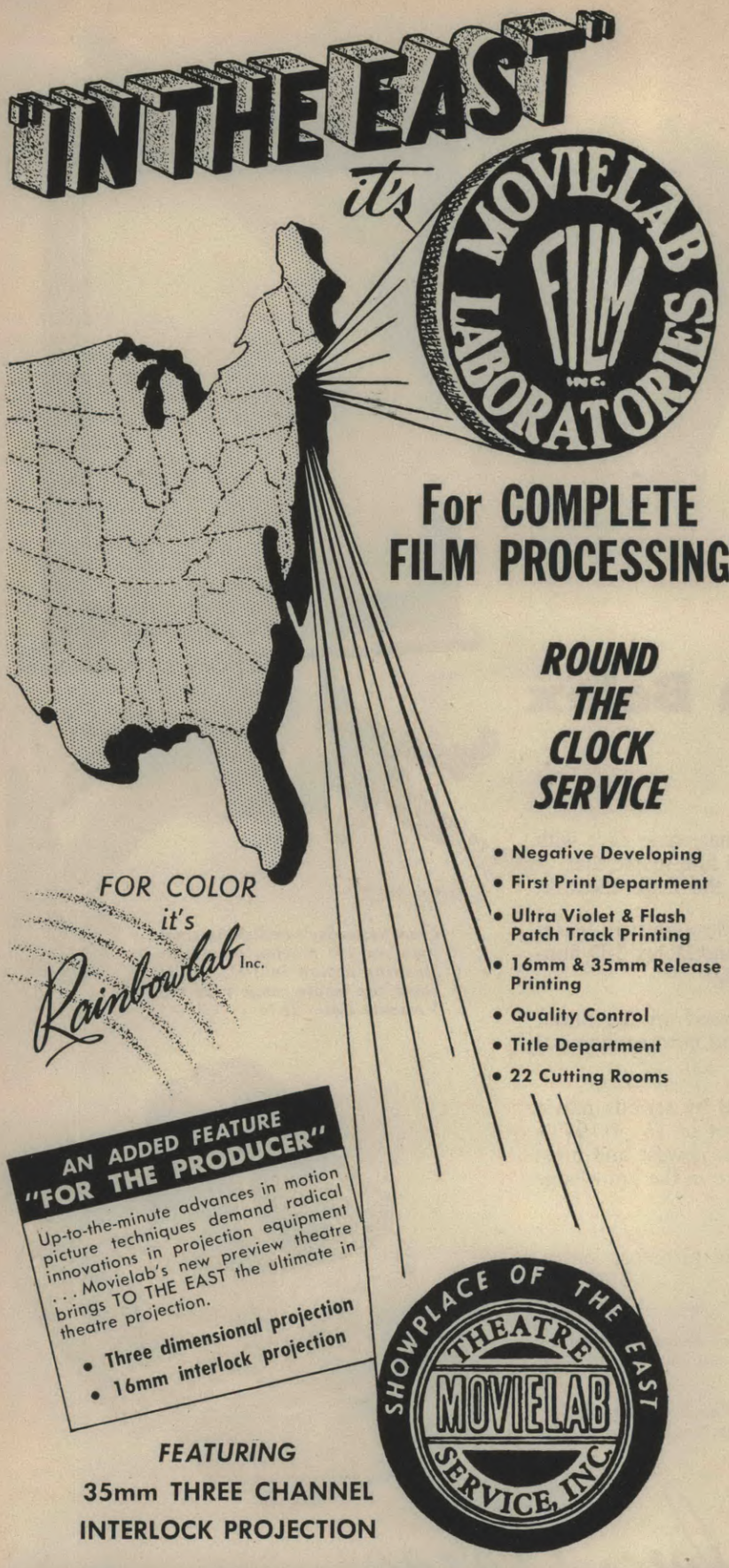
The Bolex Stereo system includes taking and projector lenses, screen, and two pairs of Polaroid glasses. $397.50*
Complete with Bolex H-16 DeLuxe camera. $715.50*

Bolex owners . . . receive regular free mailings of Bolex Reporter by registering serial numbers. Offer applies only to residents of U. S. A. Overseas subscriptions, $2.00 four issues.

Paillard Products, Inc., 100 Sixth Ave., New York 13, N. Y.
Outside U. S. A. write to Paillard, S. A. Ste. Croix, Switzerland

**including F. E. T.*

Be first...to enjoy Bolex® Stereo 16mm Home Movies



3-D FILM FESTIVAL

(*Continued From Page* 440)

are that all entries shall be completely-edited films. That is, they should have reasonable continuity (not be merely an assemblage of random shots, although well photographed novelty series of 3-D trick sequences will be accepted in lieu of a strictly continuity film); films should have at least a main and an end title; films may have sound—either recorded on the same film or separately on synchronized magnetic tape or 16mm film. Sound or silent, all films will receive the same consideration. The Festival committee will make no distinction between black-and-white and color entries; both will receive equal consideration.

The committee, which will evaluate entries and select those films to be screened during the three-day festival in Hollywood, will include six leading directors of photography in the Hollywood studios, most of whom have photographed 3-D films that are currently being shown in the nation's theatres.

Now that simple 3-D attachments are available, a broad new field of movie making for 16mm Cine cameras has been opened to the 16mm filmer, both amateur and professional. Indeed, a number of 3-D films in 16mm color already have been turned out for clients by industrial film producers using Bolex 3-D equipment—one that comes to mind being "Packaging — The Third Dimension," produced by Academy Film Productions, Chicago, for Stone Container Corporation, and described in American Cinematographer for August, 1953.

With 3-D feature films becoming more and more popular with the public, 3-D home movies are following this popular trend. American Cinematographer's 3-D Film Festival has as one of its purposes to give impetus to this trend, and to demonstrate to all movie makers what a tremendous impact there is in 16mm movies filmed in 3-D.

To enter your 3-D film in AC's Festival, fill out and mail the entry blank supplied in this issue.

CINEPANORAMIC

(*Continued From Page* 434)

the sound together with those of the characters or objects which produce it.

"In the Cinepanoramic process, stereophonic sound is produced as follows: Recording is carried out by means of a system of three microphones disposed in the filming field. The recording is done magnetically on Pyral magnetic

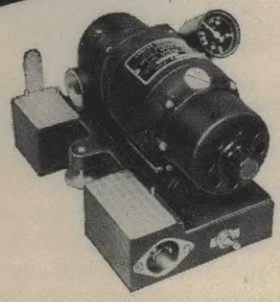
In Studio... or on Location...

the new "Balanced" TRIPOD HEAD is doing a whale of a job every day

"Balanced" Tripod Head

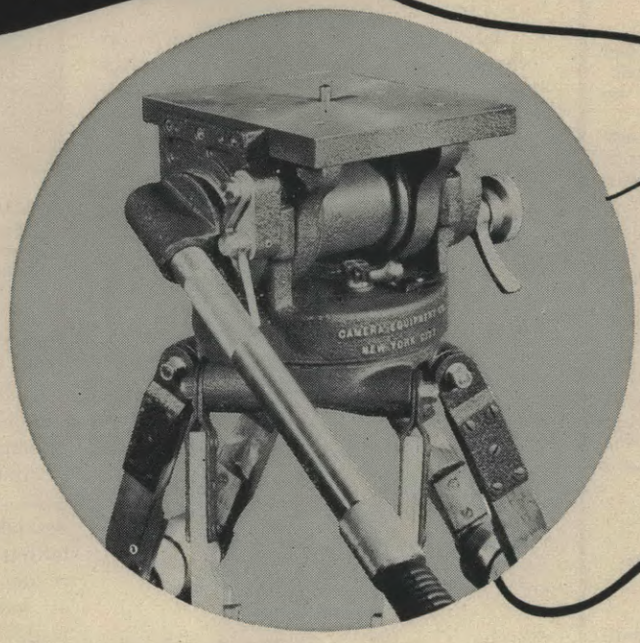
We threw the book away and engineered a brand new "BALANCED" Tripod for every photographic and video need. The result—a revelation in effortless operation, super-smooth tilt and 360° pan action.

PERFECT BALANCE prevents mishap if the lock lever is not applied. Quick release pan handle locks into desired position. Mechanism is enclosed, rust-proof, needs no lubrication. Tension adjustment for Camera Man's preference. Built-in spirit level. Telescoping extension pan handle. We defy you to get anything but the smoothest, most efficient operation out of this tripod beauty.

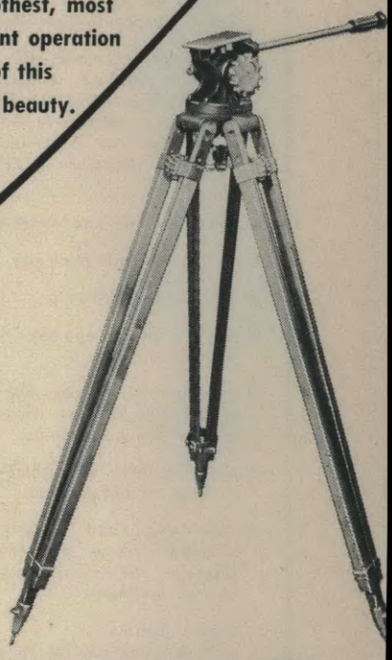


VARIABLE SPEED MOTOR—110 Volt AC/DC—with Tachometer for EK Cine Special

Motor drive your Cine Special with confidence! Tachometer is mounted in clear view of operator. Calibrated from 16 to 64 frames per second. Definite RED marking for 24 fps. Electrical governor adjusts speeds. Steady operation at all speeds. No adapters needed. Motor coupling attaches to camera and couples to motor. Spring steel drive arm shears if film jam occurs. Easily replaced.



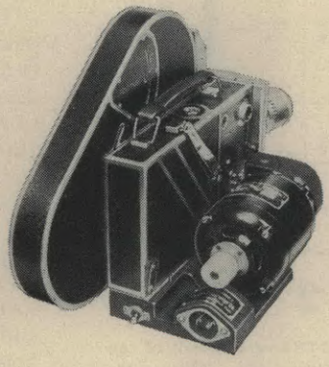
HEAD ILLUSTRATED CONTAINS ADJUSTABLE CAMERA TIE-DOWN SCREW FOR LOCATING CENTER OF GRAVITY. THIS FEATURE IS OPTIONAL.



SYNCHRONOUS MOTOR DRIVE—110 Volt AC —Single phase, 60 Cycle.

Runs in perfect synchronization with either 16mm or 35mm Sound Recorders. Mounting platform permits removal of magazine while camera remains mounted on motor. Spring steel drive fin coupling prevents damage if film jam occurs.

Knurled knob on armature permits rotating for threading. "On-Off" switch in base. Platform base threaded for 1/4" or 3/8" tripod tie-down screw. Rubber covered power cable with plugs included.



PROFESSIONAL JUNIOR TRIPOD—Friction Type

Handles all 16mm cameras, with or without motor. Also 35mm DeVry, B & H Eyemo with and without motor, and 400' magazines. Tripod base interchangeable with Professional Junior gear drive head. "Baby" tripod base and "Hi-Hat" base available.

If you work with film... for Studio, Newsreel, Commercials, Business, Industrial or Home Movies—it will pay you to get to know us. The country's foremost professionals depend upon our portable, versatile, adaptable equipment.

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MAURER: 16mm Cameras

MOVIOLA: Editing machines, Synchronizers

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and manufacture Lens Mounts and camera equipment for 16mm—35mm and TV cameras.

We Calibrate Lenses Precision "T" STOP CALIBRATION of all type lenses, any focal length.

Our method is approved by Motion Picture Industry and Standard Committee of SMPTE. For proper exposure density, it is important that you have your lens "T" stop calibrated. Lenses coated for photography. Special TV coating. Rapid service.

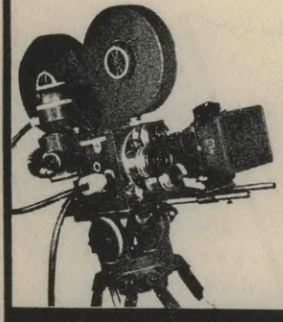
mitchell
CAMERA STORES, INC.

PROFESSIONAL DEPARTMENT

We carry a complete line of 35mm and 16mm Motion Picture Production equipment with which we can equip you on either direct sale or on rental basis.

If your needs are for Studio or Location, Newsreel or Commercial, Business or Industrial, Motion picture cinematography, Mitchell Camera Stores, Inc. is ready to serve you as follows:

- Rental and Sales
 Mitchells — Wall — Bell & Howell — Akeley — Ari & Eclair Cameras, etc. Raby Blimps—Dollies—Houston, etc.
- Professional Lenses for 16mm and 35mm, supplied and mounted to Mitchell and all other Motion Picture Cameras — Baltar — Goerz-American — Cooke — Angenieux — Wollensak — Eastman — Zeiss — Astro, etc.
- Lens Coating and Calibration.
- "T" Stop Calibration for all lenses.
- T.V. Ground glasses.
- Ground glasses engraved to your specification.
- Synchronous, Variable Speed and other special-duty motors supplied for all motion picture cameras.
- Close-up bellows attachments and other devices for all Mitchells.
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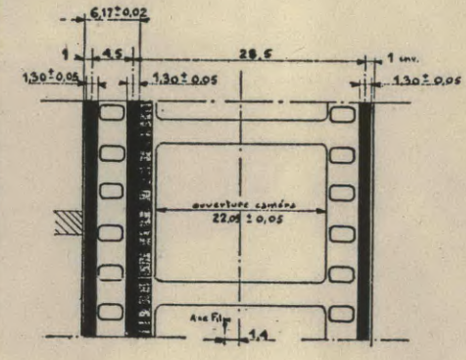


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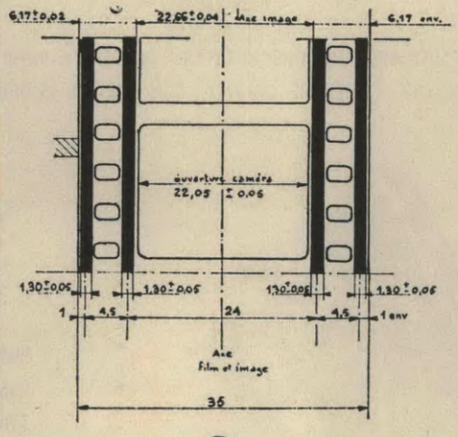
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film, producing three separate tracks corresponding to the three microphones. Where required, the magnetic tracks later are re-recorded to optical tracks. The use of magnetic Pyral tracks on the release prints, however, has the advantage of requiring no modification either in the dimension of the picture area of the film or the sprocket holes of the film as is presently being considered for CinemaScope prints.

"Use of the Pyral magnetic tracks on release prints has been thoroughly tested, and no sound echo from the juxtaposition of the tracks has been detected.



1



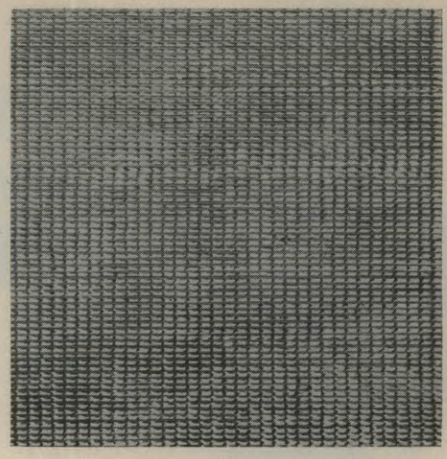
2

HOW FOUR TRACKS are provided on 35mm Cinepanoramic film. Utilizing the French Pyral process, 3 magnetic and one optical tracks are recorded as shown above in Fig. 1; or four all-magnetic tracks as shown in Fig. 2.

"This method also presents the advantage of allowing for the protection of the picture and sound by means of one and the same print, thus eliminating the disadvantage of stereophonic sound reproduction by secondary sound-track film running in sync with the picture.

"In the theatre, the sound for Cinepanoramic films is reproduced by a unit of three groups of speakers placed behind the screen—at right, left, and at center."

Perhaps one of the most interesting



DETAIL of the structure of the French "Panlight" screen that can be dusted and washed with sponge and water. Screen is made of aluminized plastic.

phases of the Cinepanoramic development is the "Panlight" screen, said to have 360% greater brilliancy than normal theatre projection screens. Of a revolutionary design, the screen fabric is composed of an infinity of tiny optical systems joined together. Mauclaire describes it as "a series of aluminized tablets made of plastic matter, and rendered transparent to sound by means of multiple perforations that are invisible during projection. For 3-D pictures, the screen has the advantage of possessing a strictly null depolarization factor." Still another feature of the screen is the fact it can be easily dusted or washed with a sponge and water.

The company plans a public demonstration of Cinepanoramic in Paris in October, at which time it will screen demonstration films made in color. Cinepanoramic lenses will become available for sale to producers and exhibitors about the first of November.

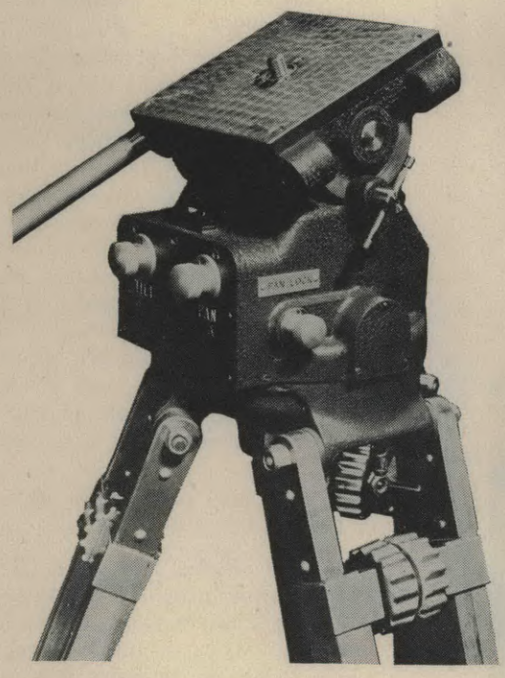
At present, Cinepanoramic has set up in its workrooms the calibrating machinery necessary for mass-production of the lens. Its licenses allow for speeding up production about 200%, and 40% in the process of mounting lenses. According to Mauclaire, the company expects to deliver 20 lenses during November, 40 in December, and 80 during January, 1954. By that time, should demand warrant, production will be increased still further.

The company is reserving its first output of lenses and screens for French theatres. In the meantime, however, it is expected that technical men of U. S. and other motion picture studios already are evaluating the lens with the object of acquiring it for their respective studios.

It is generally considered that the anamorphic lens system is in public domain and therefore available to all who have the skill and knowhow to put

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it together in a way that will produce undistorted pictures. It is expected that the various lenses of this type now beginning to appear on the market under various trade names will ultimately be classified by the industry according to their respective quality, just as standard motion picture camera lenses are presently classified. In the final analysis, the anamorphic lens having the greatest demand will be the one that renders a picture on the screen with a minimum of distortion; that permits working at reasonably small apertures under artificial light; and which possesses reasonable depth of focus. These factors, it would seem, form the real basis for the competition that appears to be developing in the field of panoramic lens manufacture.

Seamless Silver Screen—RCA Victor, division of the Radio Corp. of America, Camden, N. J., announces a new theatre screen featuring a silvered surface especially designed to meet requirements of 3-D and wide-screen systems. New screen is also recommended for 2-D presentations in houses using Suprex or high-intensity carbon arc light sources. The company's standard silver screen is designed for use with either Mazda or carbon arc light sources. Both screens are made from seamless vinyl plastic.



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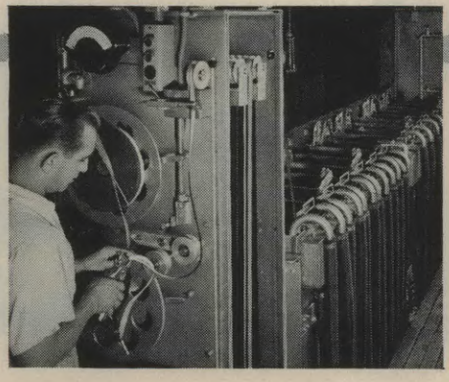
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3-D TRAVEL FILM

(*Continued From Page* 431)

in the crystal clear water of Devil's Hole rising to the surface to catch food being thrown to them—the latter with the camera pointed straight down toward the water.

To insure the best stereo results in our closeup shots, the rules of 3-D filming were rigidly followed. Thus to keep subjects *behind* the screen, they were filmed at either 24 inches or 40 inches with the appropriate closeup lenses, depending upon the depth and size of the subjects. Because depth in 3-D closeups is somewhat limited subject material must be carefully selected and filmed. For example, when shooting a subject at a distance of 24 inches, any object more than 30 inches from the camera must be removed or obscurred, otherwise a disturbing effect will result for the audience.

We met this problem in either one of two ways:

(1) *By placing the object in front of a plain background.* The closeup of a Bohemian rose in the film was filmed this way. My assistant held the rose, which had a fairly long stem, against a cloudless sky. A cloud, no matter how small, should not appear in the background of a closeup of this kind.

(2) *By using a backdrop to eliminate otherwise disturbing backgrounds.* This method was frequently used in the Bermuda film. The backdrops used were panels of thin colored cardboard, 22 by 30 inches in size. One of these having the appropriate color was placed behing the subject to be filmed in closeup. Care was taken to so place the cardboard that it would not pick up shadow of subject, yet be adequately lit.

In stereo closeups, depth is somewhat exaggerated. Therefore shooting at close distances was restricted to those objects which would not suffer from the slight exaggeration. In other instances we minimized the exaggerated effect by shooting from such an angle that depth was diminished.

No little praise is due the wonderful people of Bermuda who graciously opened their homes and gardens to us, and in many other ways aided us in the production of the first 3-D travel film of their land.

MAKE YOUR MOVIES EASY TO LOOK AT

(Continued From Page 438)

the most common type of guide used in picture composition. Here it is a simple matter for the lane to lead the eye from the foreground back into the picture and ultimately to the point of interest. Additionally, a splotch of sunlight may become a prominent sign post, and may be supplemented by a row of trees or bunches of grass to further enhance composition. A stone wall may be just at the right place at the right time. The same may apply to an old rail fence, a city sidewalk or the curb line on a modern street. It is not as though such sign posts are infrequently found; on the contrary, they are almost everywhere one may choose to film his pictures. However, a little practice may be necessary before one learns to recognize them and to use them in photographic composition.

One bit of information that may help one to recognize and use these so called composition sign posts is the fact that the eye, under normal conditions, will start looking at a scene at the lower left-hand corner and will continue on through to the upper right-hand corner. It is at the beginning of this line that the picture sign post should be placed. Following the line in a ways, the chief point of interest is then placed. We may let the eye stop here, but if not, we should then provide for it to be led out of the picture near the upper right-hand corner of the composition before it sees everything in the picture and starts to roam around.

Unless the filmer has had considerable experience in picture composition it is unwise for him to try all of the ideas here set forth at the same time; a poorly composed picture would be almost certain to result.

A much better plan is to learn how to apply each of the ideas individually.

(Continued on Next Page)

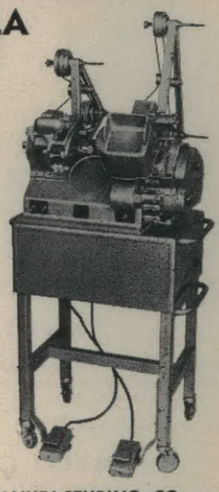
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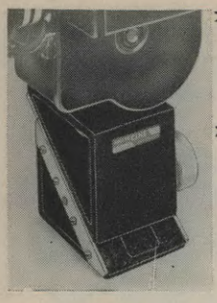
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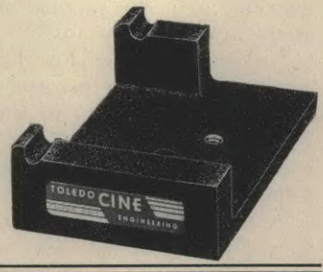
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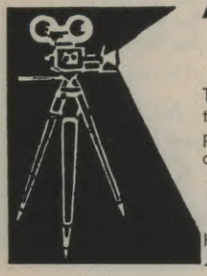


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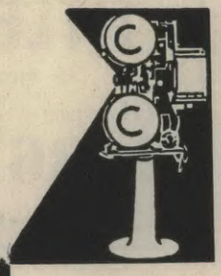
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Making a few test shots of various methods of picture framing would be a better way to gradually build up a skill for picture composition. Try a few shots say, with a doorway framing the subject, and extend the practice to the old garden gate or the grape arbor over the summer house.

With experience in framing one will have also gained experience in picture balance—especially horizontal balance. It is not too difficult a task to maintain the picture frame and at the same time to look into the mid-distance or background and find an object of similar size (so called "heavy" objects) on each side of the picture. Such objects need not be extremely large, but should be easily seen as a balancing factor in the picture on the horizontal plane.

From horizontal balance is but a single step in practice to vertical balance. Here we raise or lower the camera in order to place the point of interest one-third of the way down from the top. In landscape composition, of course, this one-third point is properly the horizon.

The country lane idea previously mentioned is perhaps the most simple of the sign post techniques to employ in the beginning. Of equal simplicity however is the city street curbline or sidewalk. The beginning movie maker



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should not rush matters at this point. Time spent studying compositions in the viewfinder will pay off in more pleasingly composed pictures.

Some idea of the use of compositional elements and their function in composing a scene are demonstrated in the accompanying illustrations. While the subject involved is a table-top figure and the compositional elements are readily set in place by hand, the same technique can be worked out with patience when preparing to film a scene out-of-doors. Instead of moving compositional and framing elements into the scene, one merely moves about with the camera, studying the scene through the finder until the desired composition appears. Additional elements can be added by the filmer—elements such as a limb of a tree, a part of a shrub, large rocks, timbers, etc., where these will enhance the overall picture.

In general it takes practice to develop proficiency in picture composition. It's a good idea to spend at least a couple of minutes composing a scene in the viewfinder before making an exposure. As experience is gained. a well-composed picture becomes a habit as easy to perform as setting the lens stop on the camera.

FILMING 3-D IN KOREA

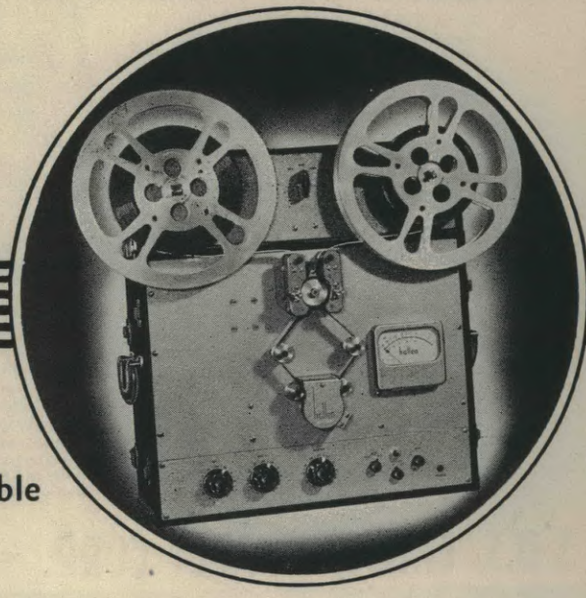
(*Continued From Page* 427)

lines is heavily chlorinated. We soon found that this was damaging the surface of the 3-D camera mirrors, so we got some alcohol and ether from the medics for cleaning the mirrors, which saved the day until we could get a new supply of mirrors through Japan. Also, for explosions we did not have the specially constructed paraphernalia used in Hollywood; a boulder hurtled through the air by a blast of TNT could be a serious camera hazard. This was partially solved by using old (and often bullet marked) GI helmets to direct part of the blast.

The picture, which has a definite story line, exactly parallels recent activity in Korea. At the time of this writing it appears that the release title will be "Cease Fire," in view of the fact that the truce was signed at Panmunjom yesterday. Yes, the Paramount 3-D crew was there and recorded the whole thing as it happened. If anyone doubts the fact that this picture is recording events as they actually happen, they just don't know much about Korea. This fact is too apparent as we remember that one of the soldiers used in the cast returned to his company after completing his part in the film. He was killed in action only a few days later. Also, the site oc-

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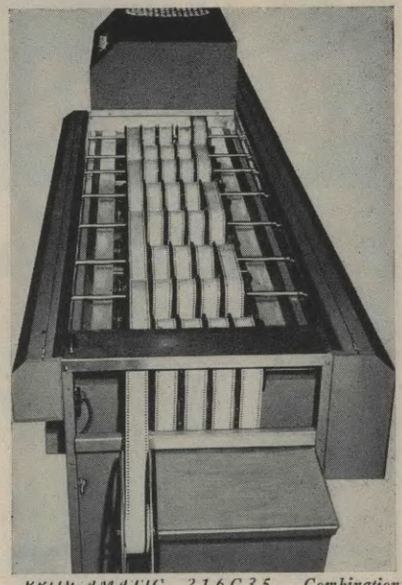
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cupied by "Outpost Paramount" in the 7th Infantry Division area was blasted by enemy artillery not too long ago. Fortunately, there were no casualties or loss of equipment.

This was an interesting project and a real source of inspiration to those of us in the Army who assisted in the making of the picture. There has been no compromise with honesty and authenticity in situation or events, or in location in any of the filming. Soldiers have a distinct tendency to criticize the usual studio product, but in this case the end result should bring loud cheers. There is nothing which can appear quite as real on the screen as reality and we know that reality is what was being recorded in the 3-D camera in Korea. In addition, we found that a Hollywood crew is a tough crowd of rugged individualists who can do as much or more back-breaking work than any front line soldier. This entire project turned into a sort of a mutual admiration society as the front-line soldier saw his own story reproduced for the folks at home, and I know that the picture crew learned more about Korea and combat conditions than have any number of news correspondents. I believe that the final result will be of greatest importance in telling audiences the "truth" of present day Korea and the fighting man. Not only that, but the courage and fortitude shown by the picture crew will be a distinct credit to the Motion Picture Industry.

16MM STEREO CAMERA

(*Continued From Page* 429)

ting of convergence, interaxial, focus, and lens choice for each 3-D shot. With the Calculator (which he terms the "brains of 3-D") correctly-photographed and undistorted 3-D pictures are assured every time.

Briefly, the first step in the filming procedure is to line up camera with the scene or object by using the center-line finder (1), Fig. 1. The cameraman, sighting through this finder, centers the camera on the "target" or main subject. Here use of a prepared target is recommended, such as a large white cardboard with a bold, black cross in the center, or a five- or six-foot pole painted alternately black and white and set vertical in a suitable base. This target is placed at a point in the set where the lenses are to converge — in other words at the point where the stereo frame or forward limit of action is to be established.

The next step is to sight through the

convergence finders (2) on top of the cameras, set the convergence on target or subject, and lock the cameras in position.

By using the Research Council 3-D Calculator as a guide, the cameraman can readily determine the permissible distance that the main subject can be moved ahead of the target point (stereo window) where such a step is desirable, and still not induce distortion or eyestrain on the screen. This is called the "0.5 near point." Use of the calculator will also show what combinations of convergence, interaxial, lens, and focus to employ in order to shoot full-head closeups, head-and-shoulder closeups, a three-quarter figure, full figure, etc., etc.

The zoom-type finder, which is adjustable manually for parallax, is then lined up for the shot — adjusted so that it is centered properly on the target point, same as when lining up the cameras through the center-line finder. In other words, sidelines are established and the finder matched to them.

After setting the lens stop and focus, the camera is ready to photograph the scene.

To project the 3-D films made with this camera, Parrish also engineered a twin-projector screening unit. This is pictured in Fig. 4. Two vintage Model-A Eastman 16mm projectors were mechanically interlocked and mounted on a base board. The interlock comprises two universal joints and a sliding shaft linking the film drive mechanisms of the two machines. Reasonable play was allowed in the shaft as a factor in providing a simple method of keeping the machines in sync without the need for a sync motor. Each projector is driven by its original motor. The rheostat control of the left-hand machine is set so this machine runs slightly faster than the right one; this produces a steady drag between the two mechanisms, said Parrish. Once adjusted, the two machines remain synchronized. For horizontal alignment, the elevating screws, which are a part of the projectors, are used. Polaroid filters, which direct the light rays for the left and right eyes for 3-D viewing, are mounted in front of the lenses, as may be seen in Fig. 4.

In all, Parrish spent 3½ months in engineering and constructing the cameras and projectors. Prior to beginning the work, he had spent close to one year in study of stereoscopy and 3-D equipment.

"Had I known that the project was going to be such a tough job," said Parrish, "I would never have started it."

Despite this, he is presently at work assembling a 35mm 3-D camera of his own design. The entire camera will be built by him, and will not include any



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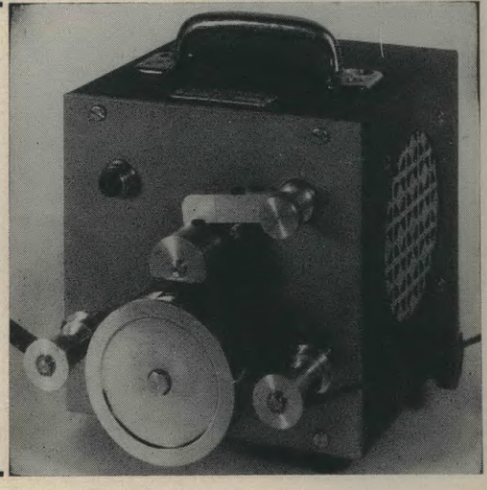
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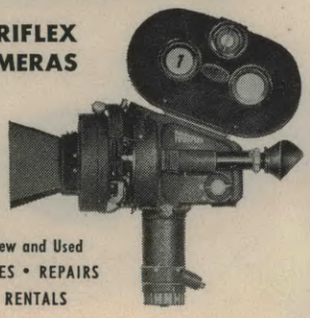
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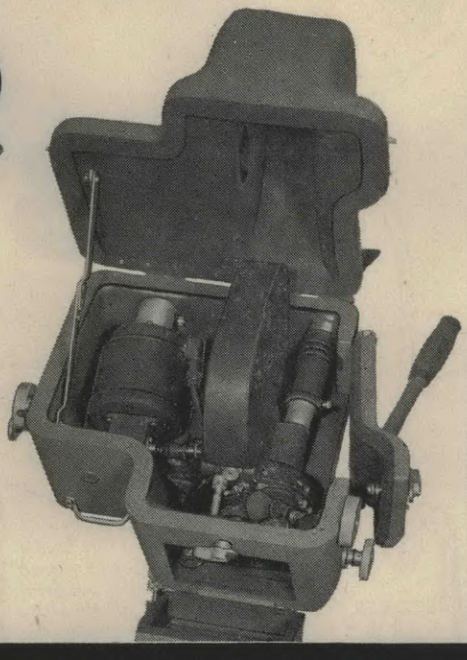
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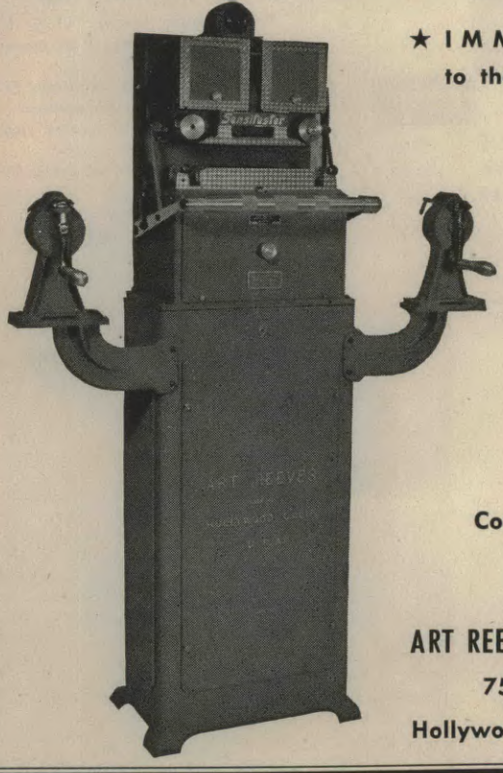
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components of any existing motion picture cameras, Parrish says.

He expects to make the cameras, both the 16mm and 35mm models, available for rental. Stereo movies in 16mm have a big future ahead, Parrish believes, and says his camera is ideally suited to the production of professional films in the 16mm width. Associated with him in this venture is his long-time friend, Dr. Julius A. Paskan, also of Culver City. Together they plan to organize a company under the tradename of Pas-Par Cine Products.

A 15-minute 3-D film in color photographed with Parrish's 16mm stereo camera with the aid of the Research Council's 3-D Calculator, is expected to be ready for demonstration in Hollywood next month.

PREPARING SOUND TRACK

(*Continued From Page* 433)

ing, all sound effects are combined on an early run. Then the sound effects are combined with the music and narration reels. If there happens to be two music tracks, they are run with an intermediate reel containing a blend of all the effects and narration tracks. The fidelity of the equipment used is so high that no loss of sound quality from re-duplicating can be detected in the final print.

Makers of 16mm films are offered three separate methods of printing sound on release prints. (1) The "normal" way is to contact-print directly onto the film with a sound negative (or positive, for Kodachrome.) (2) When the original sound has been recorded on 35mm optical or any size magnetic film, some producers prefer to have an optical 35mm sound negative or positive made. This standard-gauge track forms the final release print track in an optical sound reduction printer. (3) The newest method, known as "electro-printing," records the sound directly onto each print.

Printing sound tracks by contact is a simple operation for the laboratory and for the film maker ordering his job to be handled that way. However, Kodachrome prints are made from *positive* sound tracks in a *negative* position. If the printing positive is recorded as a direct or reversal positive, it will be ready to use in Kodachrome printing. But if a negative is made during the final dubbing session, the recorder should run in reverse in order that the print from that negative will be correctly aligned.

Release tracks printed by reduction are, on the average, somewhat better than those formed by contact. The extra expense is mainly in preparing the

35mm sound positive; for large labs. such as Consolidated in Hollywood, charge about the same for reduction printing. (With this method, the picture area is printed by contact.)

The electro-printing method for 16mm sound films was introduced by Loren L. Ryder ASC, head of Ryder Services, Inc., Hollywood. In this system, each release print has the sound track recorded directly through a sound-on-film recorder that operates synchronously with a film phonograph playing a high fidelity magnetic track. The big advantage claimed for this method is that sound losses due to printing operations are eliminated: each electro-print is an original optical recording.

Surprisingly, electro-printing adds very little to the cost of an ordinary release print. The explanation is that only silent picture printing need be ordered after the raw stock has been recorded by a sound service. But the quality is unmatched. William A. Palmer of San Francisco, who handled kinescoping of the "Standard Hour" television program, chose to electro-print his sound tracks, thus preserving the superb musical quality of the recordings made originally on tape.

Before starting work on a sound film, the independent 16mm film maker should talk over his sound problems with the sound studio and the film laboratory he plans to deal with. Each will suggest procedures that will best match their respective equipment and thus speed the production on its way to the final release print.

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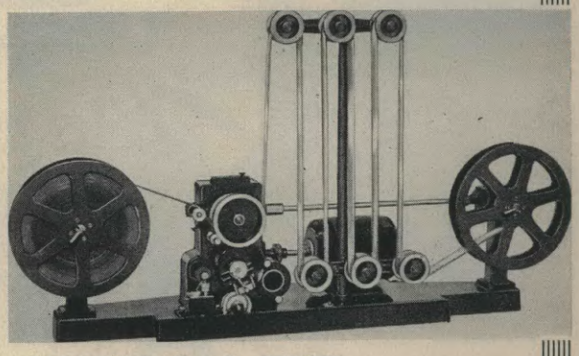
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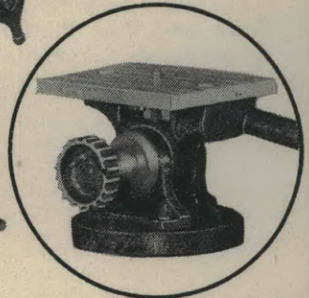
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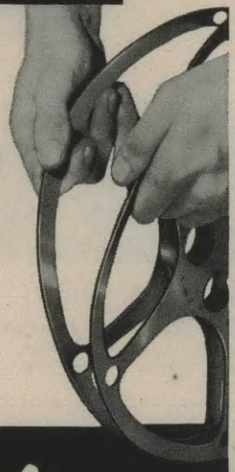
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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

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Allied Artists

● HARRY NEUMANN, "Dragonfly Squadron," (3-D) with John Hodiak, Barbara Britton, Bruce Bennett, Jess Barker, Gerald Mohr, Chuck Connors, and John Lupton. Lesley Selander, director.

Columbia

● FRANK PLANER, "The Caine Mutiny," (Kramer Co., Technicolor) with Humphrey Bogart, Jose Ferrer, Van Johnson, Fred MacMurray, Robert Francis, May Wynn, Tom Tully. Edward Dmytryk, director.

● HENRY FREULICH, "Battle of Rogue River," (Esskay Pictures, Technicolor) with George Montgomery, Martha Hyer, and Richard Denning. William Castle, director.

Metro-Goldwyn-Mayer

● FREDDIE YOUNG, "Knights of the Round Table," (Technicolor — CinemaScope) with Robert Taylor, Ava Gardner, Mel Ferrer, Maureen Swanson, and Stanley Baker. Richard Thorpe, director.

● JOSEPH RUTTENBERG, "Miss Baker's Dozen," (Ansco Color) with Greer Garson, Robert Ryan, Barry Sullivan, Richard Haydn, James Arness, Rex Thompson, Tim Considine and David Stollery. Robert Z. Leonard, director.

● PAUL C. VOGEL, "Rose Marie," (Technicolor—CinemaScope) with Ann Blyth, Fernando Lamas, Howard Keel, Marjorie Main, Bert Lahr, and Joan Taylor. Mervyn LeRoy, director.

● GEORGE FOLSEY, "Executive Suite," (Widescreen) with William Holden, June Allyson, Barbara Stanwyck, Frederic March, Walter Pidgeon, Shelly Winters, Paul Douglas, Louis Calhern. Robert Wise, director.

Paramount

● DANIEL FAPP, "Knock On Wood," (Widescreen, Technicolor) with Danny Kaye, Mai Zetterling. Producer-directors, Norman Panama and Melvin Frank.

● ERNEST LASZLO, "The Naked Jungle," (Technicolor, Widescreen) with Charlton Heston, Eleanor Parker. Byron Haskin, director.

● LIONEL LINDON, "Casanova's Big Night," (Technicolor-Widescreen) with Bob Hope and Joan Fontaine. Norman Z. McLeod, director.

Republic

● JACK RUSSELL, "Hell's Half Acre," with Wendell Corey, Evelyn Keyes, Marie Windsor, Elsa Lanchester, Jesse White. John H. Auer, producer-director.

R.K.O.-Radio

● HARRY WILD, "The French Line," (Edmund Grainger Prod.; Technicolor) with Jane Russell and Gilbert Roland. Lloyd Bacon, director.

● WILLIAM SNYDER, "Rangers of the North," (3-D-Technicolor) with Victor Mature and Piper Laurie. Louis King, director.

20th Century-Fox

● JOSEPH MACDONALD, "Hell and High Water," (Technicolor, CinemaScope) with Richard Widmark, Bella Darvi, and Victor Francen. Samuel Fuller, director.

● JOSEPH LASHELLE, "River Of No Return," (Technicolor-CinemaScope) with Marilyn Monroe and Robert Mitchum. Otto Preminger, director.

● LEON SHAMROY, "King of the Khyber Rifles," (Technicolor-CinemaScope) with Tyrone Power and Terry Moore. Henry King, director.

● LUCIEN BALLARD, "Prince Valiant," (Technicolor—CinemaScope) with Robert Wagner, Janet Leigh, Debra Paget, James Mason, Sterling Hayden, Victor McLaglen, Donald Crisp. Henry Hathaway, director.

● MILTON KRASNER, "We Believe In Love," (Technicolor-CinemaScope; filmed in Rome, Italy) with Clifton Webb, Jane Peters, Maggie

McNamara, Dorothy Maguire, and Louis Jourdan. Jean Negulesco, director.

● CHARLES G. CLARKE, "Night People," (Technicolor—CinemaScope; shooting in Berlin, Germany) with Gregory Peck, Rita Gam, Broderick Crawford. Nunnally Johnson, producer-director.

● HAROLD LIPSTEIN, "Three Young Texans," (Panoramic Prods.; Technicolor — Widescreen) with Mitzi Gaynor, Keefe Brasselle, and Jeff Hunter. Henry Levin, director.

● LEO TOVER, "Man In The Attic," (Panoramic Prods.; Wide-screen) with Jack Palance, Connie Smith, Rhys Williams. Hugo Fregonese, director.

Universal-International

● RUSSELL METTY, "Son Of Cochise," with Rock Hudson and Barbara Rush. Douglas Sirk, director.

● IRVING GLASSBERG, "Ride Clear of Diablo," (Technicolor) with Audie Murphy, Dan Duryea and Susan Cabot. Jess Hibbs, director.

● JOHN SEITZ, "Saskatchewan," (Technicolor —Wide-screen) with Alan Ladd, Shelly Winters, Robert Douglas, and J. Carrol Naish. Raoul Walsh, director.

● CARL GUTHRIE, "Yankee Pasha," (Technicolor — Wide-screen) with Jeff Chandler, Rhonda Fleming, Lee J. Cobb. Joseph Pevney, director.

● WILLIAM DANIELS, "The Far Country," (Technicolor—Wide-screen) with James Stewart, Ruth Roman, Corinne Calvet, and Walter Brennan. Anthony Mann, director.

● MAURY GERTSMAN, "Fort Laramie," (Technicolor—Wide-screen) with John Payne, Mari Blanchard, Dan Duryea and Joyce Mackenzie. Jesse Hibbs, director.

Warner Bros.

● EDWARD DUPAR, "The Bounty Hunter," (3-D, WarnerColor) with Randolph Scott and Dolores Dorn. Andre DeToth, director.

● ROBERT BURKS, "Dial M For Murder," (3-D, WarnerColor) with Ray Milland and Grace Kelly. Alfred Hitchcock, director.

● WILFRED CLINE, "Rear Guard," (3-D, WarnerColor) with Guy Madison and Joan Weldon. David Butler, director.

Independent

● CLIFF STINE, "Americano," (Moulin Prods.; Eastman Color—Wide-screen; shooting in Sao Paulo, Brazil) with Glenn Ford, Arthur Kennedy, Sara Montiel, and Cesar Romero. Budd Boetticher, director.

● LESTER WHITE, "Silver Dollar," (Edward Small Prod.; SuperCineColor—Wide-screen) with Jock Mahoney, Peggy Castle, and Adele Jergens. Fred Sears, director.

TELEVISION

(The following directors of photography were active last month in photographing films for television, or were on contract to direct the photography of television films for the producers named.)

● LUCIEN ANDRIOT, "Life of Riley" series of TV comedies for Hal Roach, Hal Roach Studio.

● NORBERT BRODINE, "Crown Theatre" series of ½-hr. drama telepix for Bing Crosby Enterprises at Hal Roach Studios; also "Letters To Loretta" series of ½-hr. drama telepix for Lewislor Enterprises, Inc., RKO-Pathe Studios.

● DAN CLARK, "Favorite Story" series of ½-hr. dramas for Ziv TV.

● EDWARD COLMAN, "Dragnet" series of half-hour mystery dramas for Mark VII, Ltd., at Walt Disney Studios.

● ROBERT DEGRASSE, "Make Room For Daddy," series of half-hour telepix for D.P.I. and Marterto Prods., Inc., Motion Picture Center.

● GEORGE DISKANT, series of half-hour dramatic shows featuring Chas. Boyer and Dick Powell for Four Star Productions at RKO-Pathe studio.

● HENRY FREULICH, "Tomorrow's Men" series of half-hour dramas for Screen Gems at Columbia Studios.

● KARL FREUND, Desilu Productions, Motion Picture Center.

● FRED GATELY, "Big Town" series of half-hour dramas for Gross-Krasne, Inc., at California Studios.

● JACK GREENHALGH, "This Is The Life" series of half-hour religious films for Family Films at KTTV Studios.

● BENJAMIN H. KLINE, "Fireside Theatre" series of half-hour TV dramas for Frank Wisbar at Eagle Lion Studios.

● CHARLES LAWTON, "Ford Theatre" series of half-hour dramas for Screen Gems, Columbia Studios.

● HAL MOHR, "The Joan Davis Show," series of half-hour comedies for Joan Davis Productions, General Service Studios.

● WILLIAM MELLOR, "Adventures of Ozzie and Harriet" series of half-hour comedy-dramas for Stage 5 Productions, General Service Studio.

● ERNEST MILLER, "Hopalong Cassidy" series of half-hour westerns for William Boyd Productions, at Placeritas Ranch.

● VIRGIL MILLER, "You Bet Your Life" (the Groucho Marx Show) series of half-hour audience-participation programs for Filmcraft Productions, at NBC Studios.

● KENNETH PEACH, "Cowboy G-Men" series of half-hour western telepix for Telemount-Mutual Productions: also "Mr. and Mrs. North" series of half-hour dramas for Federal Telefilm, Inc., at Samuel Goldwyn Studios; also "Ramar of the Jungle" series of half-hour adventure dramas for Arrow Productions at Eagle-Lion Studios.

● ROBERT PITTACK, "Cavalcade of America" series of half-hour films for Jack Chertok Productions, General Service Studios.

● WALTER STRENGE, "My Little Margie" series of half-hour comedies for Roland Reed Productions, Hal Roach Studios.

● MACK STENGLER, "The Liberace Show" series of half-hour musical films for Snader Telescription Corp., at KLAC Music Hall Theatre.

● HAROLD STINE, "Superman" series of half-hour telepix for Superman, Inc., California Studios.

● PHILLIP TANNURA, "The Burns and Allen Show" series of half-hour comedies for the McCadden Corporation, General Service Studios.

● STUART THOMPSON, "Your Jeweler's Showcase" series of half-hour telepix for Sovereign Productions, Eagle-Lion Studios.

● GILBERT WARRENTON, series of half-hour telepix for Revue Productions.

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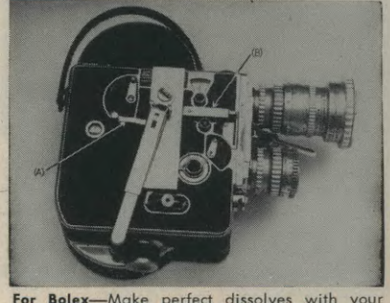
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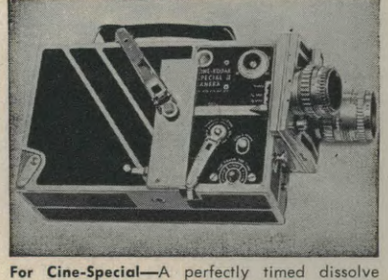
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BULLETIN BOARD

(Continued from Page 414)

Joe Ruttenberg, ASC, is directing the photography of her latest picture at MGM, "Miss Baker's Dozen" — saga of a schoolmarm and twelve boy pupils.

•

HAROLD LIPSTEIN, ASC, long a regular at MGM, has transferred his photographic bag of tricks to the RKO-Pathe lot. There he is directing the photography of "Three Young Texans" in Technicolor Wide-Screen for Panoramic Productions, a subsidiary of 20th Century Fox.

•

GLENN R. KERSHNER, ASC, veteran cinematographer now retired, is now a radio "ham." Kershner has been assigned amateur radio station call letters KN6BNZ, and looks forward to nightly conversations with his many friends in the South Seas. He's on the 40 meter waveband.

•

ARTHUR ARLING, A.S.C., last month shot aerial background scenes for MGM's forthcoming "Panther Squadron 8," saga of the Naval Air Force to be directed by Andrew Marton.

•

BOB ROBERTS, A.S.C., who returned to Hollywood from South America several months ago, is preparing to return to Brazil, where he will become a director of photography for a leading studio in Sao Paulo.

•

HUMBERTO CORREL, head of the cinematographic department of one of Brazil's leading motion picture studios is back in Hollywood to acquire additional equipment for his studio. In addition to Spanish and Portugese language films for the Latin Americas, his company is also producing TV films for South America's growing television networks.

•

J. BURGI CONTNER, non-resident member of the ASC, who resides in New Canaan, Conn., reports he's busy directing the photography on the East Coast of several TV film shows, including "Hollywood Offbeat," "American Wit and Humor," "The Doctor," and a 15-minute Steve Allen quiz show. All this between shooting commercial and documentary films for Caravel Films, Inc.

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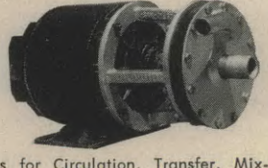
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WIDE SCREEN FOR 16MM MOVIES

(Continued From Page 440)

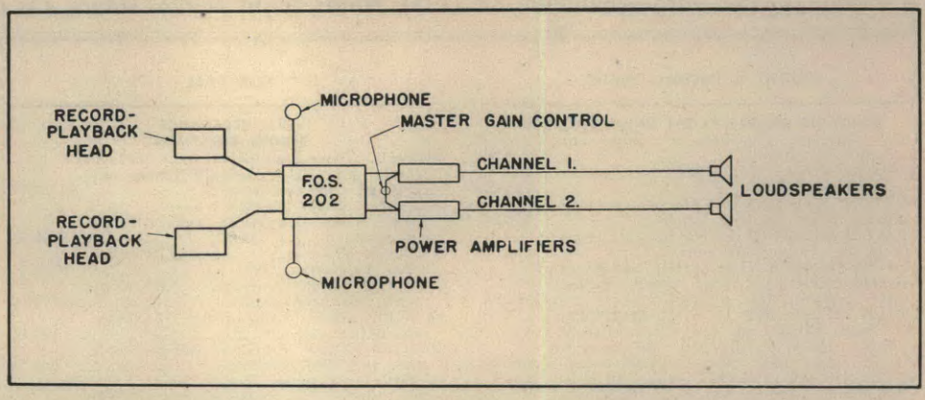


DIAGRAM of proposed stereophonic sound system for Bell & Howell 16mm wide screen movies.

ies on screens with a much narrower dimension. The larger picture with its three-dimensional sound, studies show, commands greater interest of the viewer and leaves him with a more lasting impression of what he sees. Obviously, this new dimension for 16mm films can greatly enhance the message retention factor of training and teaching films. Educational institutions have the advantage in that the large curved screen necessary for showing the panoramic pictures can be of permanent installation. Screen manufacturers such as Radiant are soon to bring out portable screens for wide-format projection in homes, schools, churches, etc.

The Bell & Howell 16mm wide-screen system is expected to be widely used in making sales and industrial films, a number of which are already in production. There is also an immediate need for the system in many foreign movie houses, many of which show 16mm theatrical films only. The new Bell & Howell system thus makes it a certainty that such productions as "The Robe" and other films produced in CinemaScope will reach vast foreign audiences that otherwise might not see such films because of the costly equipment required for theatres to show them in 35mm. Advanced amateurs, domestic and overseas theatres of the armed forces, churches and other institutions will also be sizeable customers for the 16mm system.

To produce stereophonic sound for the system, a modified version of the company's magnetic recording projector (the Filmosound 202) will be offered by Bell & Howell to record the magnetic sound tracks as well as to project the wide-format films. Two different sound tracks, recorded side by side on a single strip of magnetic material permanently bonded to the film edge provide the stereophonic sound. While stereophonic sound is not absolutely essential to wide-screen productions in 16mm, multi-directional sound, properly engineered and recorded definitely will enhance the scope of such productions. With the Bell & Howell streophonic sound system, the sound is played back through two separate amplifier-speaker units located at opposite ends of the screen and along the sides of the auditorium.

Bell & Howell engineers emphasize that the new 16mm wide-screen system will not obsolete existing motion picture equipment. While the wide-screen picture has a definite place in today's 16mm industry, standard format 16mm movies will continue popular.

One field in which the new wide-screen system is expected to make large gains is lecture film production and exhibition. The nation's popular lecturers may now bring their pictures to audiences with more drama and impact than ever before—something that is certain to increase audience reception for this already popular class of entertainment.

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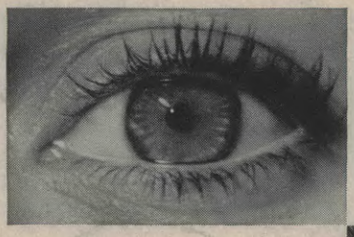
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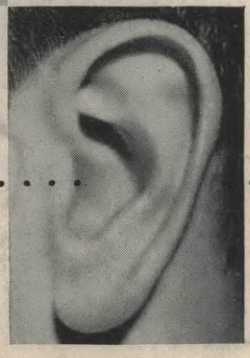
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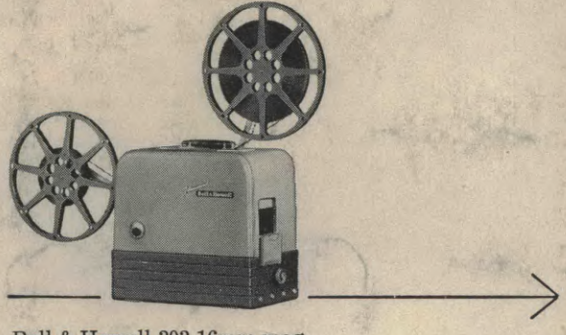


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